AUSTRALIAN ENERGY MARKET COMMISSION

RULE

Rule determination

National Electricity Amendment (Including distribution network resilience in the national electricity rules) Rule

Proponent

Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources

8 May 2025

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About the AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

Acknowledgement of Country

The AEMC acknowledges and shows respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

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Summary

1 Severe weather events in recent years have resulted in widespread long-duration outages in the National Electricity Market (NEM). Floods, bushfires and severe storms have impacted electricity networks, leaving thousands of customers without electricity supply for prolonged periods of time and consumers bearing the costs and risks of these events.

2 Climate change is expected to further increase the frequency and severity of severe weather events. This has increased the focus on the resilience of electricity distribution networks to power outages caused by severe weather events.

3 The Australian Energy Market Commission (the AEMC or Commission) has decided to make a more preferable final rule (final rule) to explicitly recognise distribution network resilience in the National Electricity Rules (NER). The final rule will provide regulatory clarity for Distribution Network Service Providers (DNSPs) and the Australian Energy Regulator (AER) around how to assess the economic efficiency of resilience expenditure proposals to reduce the risk and impact on consumers of power outages caused by severe weather events, taking into account the impacts of climate change.

4 The final rule is in response to the rule change request from the Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources (proponent).

5 Our final rule clarifies how efficient resilience expenditure is to be considered under the economic regulatory framework. It focuses on outcomes for consumers affected by power outages caused by severe weather events, and requires DNSPs to take into account the likely impacts of climate change on their networks. In addition, it will increase the likelihood that resilience is considered and delivered.

6 Our final rule is part of a larger program of work to improve electricity distribution network resilience. Recent related work includes the Victorian Government's two expert reviews into electricity network resilience following widespread prolonged power outages in Victoria, and the AER's development of an informal guideline on resilience expenditure proposals and establishment of a Value of Network Resilience (VNR) for prolonged power outages.

Our final rule will improve clarity, flexibility and accountability for electricity distribution network resilience

7 The proponent raised the following issues with the current arrangements:

- the lack of a formal framework for distribution network resilience creates regulatory uncertainty for DNSPs and the AER around how to efficiently spend on network resilience for prolonged-power outages
- regulatory arrangements place insufficient focus on consumer outcomes related to power outages from severe events
- climate change is expected to increase the likelihood of severe weather events.

8 The Commission considers that resilience is currently able to be considered in the network regulatory framework. However, the Commission is of the view that explicitly recognising resilience in the regulatory framework is likely to improve consumer outcomes by increasing the likelihood that DNSPs consider, plan for and deliver improved network resilience, and are also accountable for outcomes. This is now even more important given the increasing likelihood of severe weather events.

9 Further, the Commission considers there are benefits in ensuring that when considering and undertaking resilience expenditure, the impact on consumers who are affected by, or at risk of, power outages caused by severe weather events, is paramount. In addition, improvements in transparency and accountability relating to DNSP planning and reporting for resilience expenditure and performance will help ensure that expenditure is efficient and delivers outcomes for consumers.

10 Our final rule will address these issues by establishing a formal framework for distribution network resilience in the NER, which includes:

- new resilience expenditure factors that DNSPs and the AER must have regard to when proposing and assessing capital and operating expenditure for resilience
- formal Network Resilience Guidelines (guidelines) which the AER must develop, publish and maintain in accordance with a set of requirements. These guidelines may be new stand-alone guidelines or included as part of another guideline, for example the AERs could include the guidelines in the AER's existing Expenditure forecast assessment guidelines published under Chapter 6 of the NER.
- new distribution annual planning and reporting requirements for resilience.

11 We note that, in the context of increasing risks from climate change, resilience is important for electricity transmission and distribution. Our final rule provides clarity in the rules for DNSPs as the issues raised in the rule change request related to resilience for electricity distribution and not electricity transmission. Transmission Network Service Providers (TNSPs) are already able to seek approval for resilience expenditure under the current economic regulatory framework and our final rule will not change these arrangements and should not create any uncertainty relating to these existing arrangements.

Stakeholder support for regulatory clarity and a focus on outcomes for consumers shaped our final rule

12 ANU, CEC, DNSPs, ENA and SMA Australia Pty. Ltd. considered that there is currently regulatory uncertainty in either how to develop and propose distribution resilience expenditure or how it will be assessed by the AER. However, there are a diverse range of stakeholder views on the appropriate formal framework for distribution network resilience and its emphasis. Stakeholders also acknowledge this is an evolving area of risk for DNSPs and consumers.

13 Stakeholders supported improving regulatory clarity, but suggested different solutions to achieve this, as outlined below.

- the AER, DNSPs and industry groups supported the rule change request to improve regulatory clarity through new resilience expenditure factors and AER guidelines (though there were different opinions on what should be included in those guidelines)
- Consumer groups and advocates did not support new resilience expenditure factors, however supported improved regulatory clarity through AER guidelines.

14 ANU, ECA, EUAA and Erne Energy considered that resilience expenditure should primarily be for DNSPs' readiness for and response to severe weather events, rather than upfront spending to reduce the risk of severe weather events.Our final rule addresses this by explicitly requiring consideration of outcomes for consumers in the resilience expenditure factors by focusing on reducing the risk of, and impact on consumers of, power outages from severe weather events. In addition, our final rule requires that the AER provide examples of resilience expenditure, including the types of expenditure supported by consumer groups, in its new guidelines.

15 Our final rule incorporates feedback from the AER, AGL, Justice and Equity Centre (JEC) and Nexa Advisory to limit the scope of the resilience expenditure factors to power outages caused by severe weather events, and not include outages caused by other events such as cyber attacks or terrorism. DNSPs have existing obligations that cover cyber-security and safety hazards to their networks in the NER and outside the NER.

16 Erne Energy and EUAA suggested that the NER require DNSPs to demonstrate the causal relationship between proposed resilience expenditure and the expected increase in power outages from severe weather events due to climate change, to reflect the AER's existing Network resilience guidance note (guidance note). The Commission considered that this would unnecessarily narrow the range of distribution network resilience programs or initiatives that DNSPs may be able to demonstrate are prudent and efficient and was not required in the NER for two interrelated reasons:

- scientific evidence already shows a clear link between climate change and the increasing severity of severe weather events, in general terms, and
- the economic assessment framework requires DNSPs to substantiate and have evidence for expenditure proposals, which are expected to include the impact of climate change on their networks.

17 Ausgrid and EUAA sought clarity on how the new resilience expenditure factors will interact with the existing expenditure objectives. The AER must have regard to resilience expenditure factors when assessing DNSPs' forecast expenditure proposals, which in turn, means DNSPs will need to consider these factors when they are preparing their forecast resilience expenditure. Under the structure of NER clauses 6.5.6 and 6.5.7, the expenditure factors are linked to the expenditure criteria, which in turn are linked to the expenditure objectives. Therefore, the new resilience expenditure factors are a driver or input, amongst others, into satisfying the expenditure objectives, including:

- maintaining the reliability, safety, security and quality of supply of standard control services, and
- maintaining the reliability, security and safety of the distribution system through the supply of standard control services.

  This approach acknowledges the role of the DNSPs in satisfying their regulatory obligations in such a way that accounts for risks to their networks and services to customers.

The Commission considers the final rule is in the long term interests of consumers

18 The Commission has considered the National Electricity Objective (NEO), the revenue and pricing principles and the issues raised in the rule change request, and assessed the final rule against four assessment criteria outlined below.

19 The more preferable final rule is likely to better contribute to achieving the NEO than the proposed rule by:

- **Improving outcomes for consumers -** Our final rule explicitly requires consideration of outcomes for consumers related to distribution network resilience, at an efficient cost, including by using existing mechanisms in the economic regulatory framework. It also increases accountability for outcomes by providing more clarity and transparency regarding plans and outcomes for consumers who are affected by, or at risk of, power outages caused by severe weather events.

- **Supporting safety, security and reliability -** Our final rule will support the safe, secure and reliable provision of energy in DNSPs' networks, at efficient cost to consumers, by taking into account the likely impacts of climate change. The scope of resilience expenditure factors is limited to power outages caused by severe weather events and does not include cyber-security and network safety hazards because DNSPs have existing regulatory obligations for these.
- **Supporting principles of efficiency -** Our final rule supports DNSPs by clarifying how resilience expenditure will be assessed, which in turn supports allocative efficiency across planning and investment timeframes. It explicitly recognises resilience in the NER in a way that strikes a balance between regulatory clarity and flexibility for the AER, DNSPs and other stakeholders in the assessment of efficient resilience expenditure, including by using existing mechanisms in the economic regulatory framework. This utilises existing expenditure assessment arrangements, including cost benefit assessment. It provides more flexibility to take into account differences between DNSPs for addressing the risks of power outages from severe weather events which may impact efficient resilience expenditure.
- **Supporting good regulatory practice -** Our final rule will support good regulatory practice by promoting predictability, transparency and accountability for DNSPs, the AER and consumers regarding distribution network resilience. It is more transparent and accountable as DNSPs must report on their performance in severe weather events and their actual and planned expenditure on resilience. The Commission has built on existing instruments and approaches to achieve the outcomes intended.

20 The final rule supports meeting community needs and improved understanding of the impacts of climate change, including the risks of severe weather events and options to support the resilience of the electricity system.

How our final rule will work

21 Our final rule will explicitly recognise distribution network resilience in the NER, as outlined below.

DNSPs and the AER must have regard to resilience expenditure factors when proposing and assessing network expenditure

22 Our final rule includes new resilience expenditure factors in the NER that the AER must have regard to when assessing DNSPs' forecast capital and operating expenditure proposals. In turn, this will result in DNSPs considering these factors when they are preparing their investment plans and forecast capital and operating expenditure proposals.

23 The existing expenditure factors in the NER will not change. The new resilience expenditure factors will be additional expenditure factors that DNSPs and the AER must have regard to when proposing and assessing distribution network expenditure.

24 Our final rule will not otherwise change the current arrangements for the assessment of forecast expenditure (ex ante basis) or cost pass throughs (ex post basis). The Commission considers that existing expenditure assessment processes, including cost benefit analysis, should be used to assess forecast resilience expenditure to provide efficient outcomes for consumers.

The AER will be required to develop network resilience guidelines that meet a set of NER requirements

25 Our final rule will require the AER to develop, publish and maintain guidelines in accordance with the Rules consultation procedures. The guidelines may be a stand-alone document or combined with existing guidelines.

26 The guidelines will need to meet a set of requirements in the NER, including:

- providing examples of resilience expenditure and the types of information DNSPs could include in their regulatory proposals to support forecast resilience expenditure, including information on climate change impacts, and
- specifying information that DNSPs must include in their Distribution Annual Planning Reports (DAPR) on the performance of the DNSP and outcomes for consumers in any severe weather events that occurred in the preceding year.

DNSPs will need to meet new annual planning and reporting requirements for resilience

27 Our final rule will require that DNSPs meet new annual planning and reporting requirements for resilience, including (but not limited to):

- identifying risks of power outages for their customers caused by severe weather events, taking into account the impacts of climate change
- reporting on the performance of the DNSP and outcomes for consumers if any severe weather events occurred in the preceding year, and
- reporting on the amount and nature of the DNSP's resilience expenditure which occurred in the preceding year and its planned resilience expenditure in the forward planning period.

Transitional rules aim to provide a practical implementation timetable

28 The final rule provides that, from 2 October 2025, the Victorian DNSPs may take the new resilience expenditure factors into account in their revised regulatory proposals, and the AER must take the new factors into account in its final distribution determinations for those DNSPs for the 2026-31 regulatory control period.

29 Transitional rules will require that:

- the AER develops and publishes guidelines by 1 December 2026
- DNSPs must comply with the new annual planning and reporting requirements starting with their 2028 DAPRs.

Key differences between the draft and final rules

30 Following stakeholder feedback on the draft determination and draft rule, we have made one change from the draft rule to the final rule. The final rule amends the draft rule at 6.4.6(a)(1)(i) to clarify that examples may include expenditure which will assist DNSPs to continue to 'safely provide adequate network services'. The Commission notes that DNSPs must always comply with safety requirements set out in jurisdictional legislation, which remain unaffected by this rule. Nevertheless, the final rule supports the safety assessment criteria by clarifying the critical importance of safety for DNSP personnel and other parties in the provision of network services.

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1 The Commission has made a final rule on network resilience

This final determination is to make a final more preferable rule (final rule) in response to a rule change request submitted by the proponent, to improve how electricity distribution network resilience is accounted for in the economic regulatory framework. We are seeking feedback on this final rule.

For more detailed information on:

- why we made the final rule, refer to Chapter 2
- how the final rule will work, refer to Chapter 3
- the rule change request and background context, refer to Appendices A and D.

1.1 Our final rule will improve regulatory clarity, flexibility and accountability for electricity distribution network resilience

The proponent raised the following issues with the current arrangements:[1]

- the lack of a formal framework for distribution network resilience creates regulatory uncertainty for DNSPs and the AER around how to efficiently spend on network resilience for prolonged power outages caused by severe events
- regulatory arrangements place insufficient focus on consumer outcomes related to power outages from severe events
- climate change is expected to increase the likelihood of power outages caused by severe weather events.

The Commission considers that resilience is currently able to be considered in the network regulatory framework. However, the Commission is of the view with stakeholders that explicitly recognising resilience in the regulatory framework is likely to improve consumer outcomes by increasing the likelihood that DNSPs consider, plan for and deliver resilience, and are accountable for outcomes. This is now even more important given the increasing likelihood of severe weather events. Under the current NER arrangements:

- there is no explicit requirement for DNSPs and the AER to take into account distribution network resilience
- there is no requirement for the AER to develop guidelines on how DNSPs may propose, and the AER may assess, resilience expenditure.

In addition, the Commission considers that improvements in transparency and accountability relating to DNSP planning and reporting for resilience expenditure and performance will help ensure that resilience expenditure is efficient and delivers outcomes for consumers. Further regulatory clarity will support the development and assessment of efficient resilience expenditure, while providing flexibility to take into account different climate change risks, consumer preferences and asset management approaches between distribution network areas.

Our final rule will address these issues by establishing a formal framework for distribution network resilience. This new framework in the NER includes:

1 The Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources, *Rule change request to account for resilience in the National Electricity Rules capital and operating expenditure factors (Rule change request)*, 23 August 2024, pp. 2-3.

- new resilience expenditure factors that DNSPs and the AER must have regard to when proposing and assessing capital and operating expenditure for resilience
- formal guidelines which the AER must develop, publish and maintain in accordance with a set of requirements, and
- new distribution annual planning and reporting requirements for resilience.

The final rule will provide that, from 2 October 2025, Victorian DNSPs may take the resilience expenditure factors into account in their revised regulatory proposals, and the AER must take them into account in its final distribution determinations for those DNSPs for the 2026-31 regulatory control period.

Our final rule aims to:

- strike a balance between regulatory clarity and flexibility for the AER, DNSPs and other stakeholders in the development and assessment of distribution network resilience expenditure proposals
- support efficient resilience expenditure to reduce the risk and impact on consumers of power outages caused by severe weather events
- improve transparency and accountability over DNSP planning and reporting for resilience.

See chapter 3 for a detailed description of our final rule.

1.2 Our final rule was shaped by stakeholder support for regulatory clarity and a focus on outcomes for consumers

ANU, CEC, DNSPs, ENA and SMA Australia Pty. Ltd. considered that there is currently regulatory uncertainty in either how to develop distribution resilience expenditure proposals or how it will be assessed by the AER. However, there are a diverse range of stakeholder views on the appropriate formal framework for distribution network resilience and its emphasis. Stakeholders also acknowledge this is an evolving area of risk for DNSPs and consumers.

Stakeholders supported improving regulatory clarity but suggested different solutions to achieve this, as outlined below.

- The AER, DNSPs and industry groups supported the rule change request to improve regulatory clarity through new resilience expenditure factors and AER guidelines (though there were different opinions on what should be included in those guidelines)[2]
- Consumer groups and advocates did not support new resilience expenditure factors, however supported improved regulatory clarity through AER guidelines.[3] or requiring DNSPs to identify vulnerabilities to severe weather events in the DAPR.[4]

Consumer groups suggested that the rule change focus on outcomes for consumers directly affected by prolonged power outages by better addressing localised impacts on consumers. Our final rule explicitly refers to outcomes for consumers in the resilience expenditure factors by focusing on reducing the risk of, and impact on consumers of, power outages caused by severe weather events. In addition, our final rule requires that the AER provide examples of the types of resilience expenditure supported by consumer groups in its new guidelines.

2 Submissions on consultation paper: Ausgrid, p. 1; AusNet, p. 1; CEC, p.1; ENA, p. 1; Energex and Ergon Energy, p. 1; Endeavour Energy, p. 1; Essential Energy, p. 1; Jemena, p. 1; Nexa Advisory, p. 3; SMA Australia Pty Ltd. p. 1; and TasNetworks, p. 1. Submissions on draft determination: AER, p. 1; Ausgrid, p. 1; AusNet, p. 1; Endeavour Energy, pp. 1-2; Energex and Ergon Energy, pp. 2 and 4; Essential Energy, p. 2; Marsden Jacob and Amokabel Australia, p. 5; SMA Australia Pty. Ltd, p. 1; and TasNetworks, p. 1

3 Submissions on consultatin paper: EUAA, p. 2; Erne Energy, p. 1 and JEC, p. 2. Submissions on draft determination: EUAA, p. 1; Erne Energy, p. 1 and JEC, p. 2.

4 Submissions on consultation paper: ECA, p. 4 and Erne Energy, p. 3.

Erne Energy and EUAA suggested requiring DNSPs to demonstrate the causal relationship between proposed resilience expenditure and the expected increase in power outages from severe weather event due to climate change,[5] as is the case in the AER's current guidance note.[6] The Commission considered that this would unnecessarily narrow the range of distribution network resilience programs or initiatives that DNSPs may be able to demonstrate are prudent and efficient and was not required in the NER for two interrelated reasons:

- scientific evidence already shows a clear link between climate change and the increasing severity of severe weather events, in general terms, and[7]
- the economic assessment framework requires DNSPs to substantiate and have evidence for expenditure proposals, which are expected to include the impact of climate change on their networks, so a requirement for DNSPs to demonstrate an increase in risk from climate change is not required.

This is explained further in section 3.2.2.

The final rule also requires DNSPs to report on consumer outcomes if severe weather events occur, with further details to be set out in the AER's guideline.[8]

DNSPs will also be required to consult with communities in developing resilience expenditure proposals, consistent with existing consultation obligations, as explained in section 3.2.6.

For more detailed information on stakeholder feedback and how we have taken it into account, refer to chapter 3.

1.3 Our final rule will support network resilience to severe weather events by more clearly taking into account climate change risks

Severe weather events in recent years have resulted in widespread prolonged power outages in the NEM. Floods, bushfires and severe storms have impacted electricity networks, leaving thousands of customers without electricity supply for prolonged periods of time and consumers bearing the costs and risks of these events. For example, on 13 February 2024 a severe storm damaged Victorian electricity networks and resulted in:[9]

- over 531,000 customers losing power at the peak of the event
- 30,000 customers losing power for up to 72 hours
- 3,000 customers remaining without power for more than a week.

Climate change is expected to further increase the frequency and severity of severe weather events. This has increased the focus on the resilience of electricity distribution networks to efficiently reduce the risk and impact on consumers of power outages due to severe weather events.

The final rule supports meeting community needs and improved understanding of the impacts of climate change, including the risks of severe weather events and options to support the resilience of the electricity system.

5 Submissions on draft determination: Erne Energy, p.4 and EUAA, p. 4.

6 AER, *Network resilience – a note on key issues*, April 2022, p. 11.

7 CSIRO, 2022 State of the Climate report. Website viewed 14 April 2025. https://www.csiro.au/en/research/environmental-impacts/climate-change/State-of-the-Climate/Previous/State-of-the-Climate-2022/Report-at-a-Glance

8 Final rule, clause S5.8(j1)

9 Victorian Government, *Response to the Network Outage Review*, 20 December 2024, p. 5.

Our final rule is part of a larger program of work to improve electricity distribution network resilience. Recent related work includes the Victorian Government's two expert reviews into electricity network resilience following widespread prolonged power outages in Victoria and the AER's establishment of a VNR for prolonged power outages. For more information on this work, see Appendix A.

The Commission has also considered the impacts of this final rule on equity. We note that vulnerable customers may be less likely to be resilient to the impacts of power outages caused by severe weather events, so this rule is likely to have greater benefits for vulnerable customers. We consider that the final rule improves equitable outcomes for consumers more broadly, for example by reducing the impact on consumers of accessing and receiving electricity supply through severe weather events.

2 The final rule will contribute to the national electricity objective

2.1 The Commission must act in the long-term interests of energy consumers

The Commission can only make a rule if it is satisfied that the rule will or is likely to contribute to the achievement of the relevant energy objectives.[10]

For this rule change, the relevant energy objective is the NEO. The NEO is:[11]

> to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system; and
>
> (c) the achievement of targets set by a participating jurisdiction—
>
> (i) for reducing Australia's greenhouse gas emissions; or
>
> (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The targets statement, available on the AEMC website, lists the emissions reduction targets to be considered, as a minimum, in having regard to the NEO.[12]

2.2 We must also take these factors into account

2.2.1 We have considered whether to make a more preferable final rule

The Commission may make a rule that is different, including materially different, to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule is likely to better contribute to the achievement of the NEO.[13]

For this rule change, the Commission has made a more preferable final rule. The reasons are set out in section 2.3 below.

2.2.2 We have considered the revenue and pricing principles for this rule change

We have to take into account the revenue and pricing principles when making rules for or with respect to distribution system revenue and pricing.[14]

In making this final determination, the Commission has considered the following aspects of the revenue and pricing principles to be most relevant:

- A regulated Network service provider (NSP) should be provided with a reasonable opportunity to recover at least the efficient costs the operator (NSP) incurs in providing direct control network services and complying with a regulatory obligation or requirement.[15]

10 Section 88(1) of the NEL.
11 Section 7 of the NEL.
12 Section 32A(5) of the NEL.
13 Section 91A of the NEL.
14 NEL section 88B and Schedule 1 items 25-26J. The revenue and pricing principles are set out in NEL section 7A.
15 Section 7A(2) of the NEL.

- Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in a distribution system with which the operator provides direct control network services.[16]

Our final rule is consistent with the revenue and pricing principles for the reasons outlined below.

- The regulatory framework provides a regulated network service provider (a DNSP in this case) with a reasonable opportunity to recover at least the efficient cost the DNSP incurs in complying with the final new regulatory obligations relating to planning and reporting requirements in the DAPR.[17]
- Our final rule has regard to the economic costs and risks of the potential for under and over investment by a DNSP in a distribution system with which the DNSP provides direct control network services by explicitly recognising distribution network resilience in the NER to clarify how efficient resilience expenditure is to be determined under the economic regulatory framework.

2.2.3 We have considered how the final rule will apply in the Northern Territory

In developing the final rule, the Commission has considered how it should apply to the Northern Territory according to the following questions:

- Should the NEO test include the Northern Territory electricity systems? Yes. For this rule change request, the Commission's final determination is that the reference to the "national electricity system" in the NEO includes the local electricity systems in the Northern Territory.
- Should the rule be different in the Northern Territory? No. The Commission's final determination is that the final rule should be a uniform rule.

See Appendix B for more detail on the legal requirements for our decision.

2.3 How we have applied the legal framework to our decision

The Commission must consider how to address regulatory uncertainty around how to develop and assess electricity distribution resilience expenditure proposals against the legal framework.

We identified the following criteria to assess whether the proposed rule change, no change to the rules (business-as-usual), or other viable, rule-based options are likely to better contribute to achieving the NEO:

- **Outcomes for consumers:** Would the rule change support outcomes for consumers by improving distribution network resilience to extreme events, at a cost that consumers are willing to pay?
- **Safety, security and reliability:** Would this enable reliable, secure and safe provision of energy at efficient cost to consumers? Would the rule change take into account the likely impacts of climate change on safety, security and reliability outcomes?
- **Principles of efficiency:** Would the rule change proposal deliver allocative efficiency across investment and planning timeframes? Would the proposal efficiently balance forecast ex ante expenditure to improve distribution network resilience against forecast ex post expenditure related to long-duration outages?

16 Section 7A(6) of the NEL.
17 Final rule, clause 5.13.1 and clause S5.8.

- **Principles of good regulatory practice:** Would the rule change promote predictability, stability and transparency for DNSPs, the AER and consumers regarding how distribution network resilience expenditure will be assessed in the economic regulatory framework?

These assessment criteria reflect the key potential impacts – costs and benefits – of the rule change request, for impacts within the scope of the NEO. Our reasons for choosing these criteria are set out in section 4.3 of the consultation paper.

Erne Energy and EUAA[18] supported the above assessment criteria for this rule change request. No submissions proposed alternative assessment criteria for this rule change request.

The AEMC has developed new guidance and updated our suite of assessment criteria to ensure issues of equity are consistently and transparently addressed in a structured way when we are making rule changes and delivering recommendations. We will focus on accounting for the diversity of consumer needs, experiences and preferences; addressing structural barriers to participation; and avoiding creating or exacerbating vulnerability. [19] Recognising that vulnerable customers may be less likely to be resilient to the impacts of power outages caused by severe weather events, this rule is likely to have greater benefits for vulnerable customers and the focus on customer outcomes in our final rule is consistent with our new guidance.

The rest of this section explains why the final rule best promotes the long-term interest of consumers when compared to other options and assessed against the criteria.

2.3.1 Supporting outcomes for consumers related to power outages caused by severe weather events

Our final rule will support outcomes for consumers related to distribution network resilience, at an efficient cost. It will do this by establishing a formal framework to clarify how efficient resilience expenditure is to be determined under the economic regulatory framework.

Our more preferable final rule is likely to better contribute to achieving the NEO than the proposed rule because it provides greater clarity regarding outcomes for consumers who are affected by, or at risk of, power outages caused by severe weather events, as outlined below.

- The final rule improves outcomes for consumers by explicitly requiring the AER to consider DNSPs' proposed expenditure to reduce the impact on consumers of severe weather events, in the expenditure factors.[20] This will increase the likelihood that DNSPs invest in resilience, improve the transparency of plans and improve the accountability on DNSPs for consumer outcomes in severe weather events.
- The final rule will require the AER to develop a guideline that includes examples of resilience expenditure, including the types of expenditure supported by consumer groups.[21] This information will support DNSPs in developing expenditure proposals for resilience projects and programs, including to:
  - communicate effectively with consumers, emergency services personnel and other relevant bodies before, during and after a severe weather event, and
  - promptly provide a level of supply to support consumers' essential needs while the DNSP works to restore full supply through its network.
- The final rule will increase the transparency and accountability for outcomes by introducing new annual planning and reporting requirements on DNSPs, including to take into account the

18 Submissions on consultation paper: Erne Energy, p. 9 and EUAA, p. 14.

19 See AEMC guidance on "How the national energy objectives shape our decisions", section 4.1.6.

20 Final rule, clause 6.5.6(e)(4) and clause 6.5.7(e)(4).

21 Final rule, clause 6.4.6(a)(1).

impacts of climate change and report on the performance of the DNSP and outcomes for consumers in any severe weather events that occurred in the preceding year.[22]

- The final rule focuses on distribution network resilience to power outages caused by severe weather events (which are not time bound), rather than prolonged power outages.

Our more preferable final rule is likely to better contribute to the achievement of the NEO than the alternative solution suggested by some stakeholders[23] to address regulatory uncertainty through AER guidelines, but not resilience expenditure factors. We consider that limiting the final rule to only requiring the AER to develop, publish and maintain guidelines without a clear set of expenditure factors with which to link the guidelines would not provide sufficient clarity or transparency on the development and assessment of ex ante resilience expenditure proposals. The Commission considers that the resilience expenditure factors in the final rule strike a balance in providing clarity and flexibility for the AER, DNSPs and consumers regarding the assessment of distribution network resilience expenditure while making clear that DNSPs have an obligation to consider risks of this kind to their networks.

2.3.2 Supporting distribution network resilience by clarifying how climate change is taken into account

Our final rule will support the safe, secure and reliable provision of energy through DNSPs' networks, at efficient cost to consumers, by taking into account the likely impacts of climate change. Our final rule supports efficient costs for consumers by:

- incorporating resilience expenditure factors into the NER that refer to the extent to which the capital or operating expenditure forecast will efficiently reduce the risk and impact on consumers of power outages caused by severe weather events
- relying on existing provisions in the NER for expenditure assessment and stakeholder consultation to assess whether resilience expenditure is prudent and efficient.

Our more preferable final rule is likely to better contribute to the achievement of the NEO than the proposed rule as outlined below.

- New annual planning requirements mean that DNSPs must identify risks of power outages caused by severe weather events, taking into account the impacts of climate change.[24] This will require DNSPs to consider the impact of climate change on their networks in the longer term. These requirements were not included in the proposed rule. In this respect, the final rule more comprehensively addresses the key challenges outlined in the rule change request than the proposed rule, and will ultimately better support outcomes for consumers.
- The scope of resilience expenditure factors is limited to power outages caused by severe weather events and does not include cyber-security risks and other network safety risks such as terrorism because:
  - in the NER, there are existing provisions in the expenditure objectives relating to the reliability, safety and security of the distribution system, as outlined in section 3.2.4 and Appendix D[25]
  - outside the NER, DNSPs have existing regulatory obligations for cyber-security and network safety hazards, as outlined in section 3.2.4 and Appendix D.

22 Final rule, clauses 5.13.1(d)(7) and S5.8(j1).
23 Submissions on consultation paper: Erne Energy, p. 3 and EUAA, p. 2.
24 Final rule, clause 5.13.1(d)(7).
25 See for example NER clause 6.5.6(a) and clause 6.5.7(a).

The more targeted scope of the outages covered by the final rule is preferable to the broader scope of the proposed rule because it avoids regulatory duplication, in accordance with principles of good regulatory practice.

- The AER is required to set out in guidelines examples of the following, which were not included in the proposed rule, and therefore better take into account climate change and outcomes for consumers.
  - Resilience expenditure which may assist the DNSP in promptly providing a level of supply to support consumers' essential needs while the DNSP works to restore full power, if a power outage occurred as a result of a severe weather event.[26]
  - The types of information DNSPs may include in their regulatory proposals to support forecasts of expenditure, including information on climate change impacts.[27]

2.3.3 Supporting efficient and flexible investment and planning arrangements

Our final rule will support allocative efficiency across planning and investment timeframes, as outlined below.

- **It supports DNSPs to efficiently plan by requiring that DNSPs**:
  - identify risks of power outages caused by severe weather events, taking into account the impacts of climate change, to make clear that DNSPs have an obligation to consider risks of this kind on their networks[28] and
  - engage with non-network providers and consider non-network options and Stand Alone Power Systems (SAPS) options (where applicable) to address the risks of power outages caused by severe weather events[29]
- **It supports efficient resilience investment by** explicitly recognising resilience in the NER in a way that strikes a balance between regulatory clarity and flexibility for the AER, DNSPs and other stakeholders in the development and assessment of resilience expenditure proposals. This will utilise existing expenditure assessment arrangements, including cost benefit assessment, and complement existing arrangements around the VNR.

Our final rule will result in DNSPs, with the AER, efficiently balancing forecast ex ante expenditure to improve distribution network resilience against forecast ex post expenditure related to power outages caused by severe weather events. The existing economic regulatory framework, including cost benefit analysis, will be used to assess proposed resilience expenditure to provide efficient outcomes for consumers. Cost benefit assessment can be used to determine the lowest cost option in Net present value (NPV) terms, for example by comparing options for ex ante expenditure to improve distribution network resilience versus a "do nothing" option where there is no upfront expenditure to reduce risk before a severe weather event and all costs are incurred after the event on an ex post basis.

Our final rule is more preferable than the rule change request because it provides more flexibility for the AER and DNSPs to account for different climate change risks, consumer preferences and asset management approaches between DNSPs which may impact efficient resilience expenditure. This is important, given that distribution network resilience approaches to efficiently manage climate change risk are evolving and rapidly developing. These approaches differ based on the characteristics of individual networks and it is appropriate to provide flexibility for DNSPs to

26 Final rule, clause 6.4.6(a)(1)(iii).
27 Final rule, clause 6.4.6(a)(2).
28 Final rule, clause 5.13.1(d)(7).
29 Final rule, clause 5.13.1(f).

take local factors into account, including the relative vulnerability to power outages of consumers in different areas of their networks. For this reason, our final rule is more flexible than the proposed rules as it will not require the AER to set out the methods, models and data that DNSPs must use to justify forecast resilience expenditure,[30] but will require that the AER provides examples of the type of information DNSPs may include in their proposals to support forecast resilience expenditure, including information on climate change impacts.[31]

2.3.4 Supporting good regulatory practice by promoting predictability, accountability and transparency

Our final rule will support good regulatory practice by promoting predictability, transparency and accountability for DNSPs, the AER and consumers regarding distribution network resilience for power outages caused by severe weather events.

Our final rule supports predictable regulatory arrangements by:

- clarifying how distribution network resilience expenditure will be assessed in the economic regulatory framework by establishing a formal framework in the NER that includes resilience expenditure factors[32] and AER guidelines[33]
- providing for the AER to explain how resilience expenditure will be addressed in incentive schemes under chapter 6 of the NER.[34]

Our final rule is more preferable than the rule change request for the reasons outlined below.

- It better promotes transparency as DNSPs have obligations to identify risks of power outages caused by severe weather events, taking into account the impacts of climate change, to publish information on these risks and to consider a range of options to address these risks.[35]
- It better promotes transparency and accountability as it requires that the AER specify resilience reporting requirements that DNSPs must include in their DAPRs, including information on the:
  - performance of the DNSP and outcomes for consumers in any severe weather events that occurred in the preceding year[36]
  - amount and nature of the DNSP's resilience expenditure which occurred in the preceding year (if any), and its planned resilience expenditure in the forward planning period.[37]
- It avoids regulatory duplication as it does not include references to cost benefit analysis, as these are covered under existing NER provisions so are not required again in the resilience expenditure factors. The existing economic regulatory framework, which includes the use of cost benefit assessment, will apply to the assessment of forecast resilience expenditure.
- It better promotes predictability and avoids duplication by relying on existing consultation processes for distribution determinations,[38] which the Commission considers are appropriate for DNSPs to engage with stakeholders regarding resilience expenditure proposals, rather than setting out the expected level of stakeholder consultation for resilience expenditure proposals.

30 Rule change request, p. 10-11.
31 Final rule, clause 6.4.6(a)(2).
32 Final rule, clause 6.5.6(e)(4) and clause 6.5.7(e)(4).
33 The AER will need to explain this in its guidelines. Final rule, clause 6.4.6(a)(4).
34 Final rule, clauses 5.13.1(d)(7), 5.13.1(f), S5.8(b)(5), S5.8(d2), S5.8(k)(1B).
35 Final rule, clause S5.8(j1).
36 Final rule, clause S5.8(m1).
37 See for example the consultation requirements on DNSPs and the AER in NER clauses 6.8.2 and 6.10.2.
38 See for example the consultation requirements on DNSPs and the AER in NER clauses 6.8.2 and 6.10.2.

- It promotes predictability and transparency by introducing transitional arrangements to implement the rule.[39] This includes that, from 2 October 2025:
  - the Victorian DNSPs may take the resilience expenditure factors into account in their revised regulatory proposals for the 2026-31 regulatory control period, which are due in December 2025, and
  - the AER must take the resilience expenditure factors into account in its final distribution determinations for the Victorian DNSPs for the 2026-31 regulatory control period, which are due in April 2026.

Our final rule also complements other work underway to consider and improve resilience outcomes as outlined in section 1.3.

The Commission considers that there will be a cost to the AER in implementing the final rule and a cost to DNSPs in complying with the final rule, however these costs will be outweighed by the benefits to consumers.

39 Final rule, rule 11.18X.

3 How our final rule will operate

Box 1: SUMMARY OF FINAL DETERMINATION

Our final rule will clarify how electricity distribution network resilience is accounted for in the energy sector economic regulatory framework. Our final rule will establish a formal framework for electricity distribution network resilience in the NER, which includes the following:

- new resilience expenditure factors that DNSPs and the AER must have regard to when developing and assessing capital and operating expenditure proposals for resilience
- a requirement for the AER to develop, publish and maintain guidelines, which may be new stand-alone guidelines or included as part of another guideline, for example the AER could include the guidelines in the AER's existing Expenditure forecast assessment guidelines published under Chapter 6 of the NER
- new annual planning and reporting requirements for DNSPs in relation to resilience.

The final rule focuses on power outages caused by severe weather events, and requires DNSPs to take into account the likely impacts of climate change on distribution network resilience.

The final rule provides that, from 1 October 2025, the resilience expenditure factors and definition of resilience expenditure may be taken into account in the Victorian DNSPs' revised regulatory proposals and must be taken into account in the AER's final distribution determinations for those DNSPs for the 2026-31 regulatory control period.

Transitional rules require:

- the AER to develop and publish guidelines by 1 December 2026; and
- new annual planning and reporting requirements for DNSPs to commence in 2028.

Changes from draft to final rule

- The final rule amends the draft rule at clause 6.4.6(a)(1)(i) to clarify that examples of resilience expenditure in the guidelines may include expenditure which will assist DNSPs to continue to 'safely provide adequate network services', despite severe weather events. The final rule supports the safety assessment criteria by clarifying the critical importance of safety for DNSP personnel and other parties in the provision of network services.

3.1 Our final rule will establish a formal framework for electricity distribution network resilience

3.1.1 Explicit recognition of resilience in the NER will increase the likelihood that DNSPs undertake efficient resilience expenditure to improve outcomes for consumers

The Commission considers that the lack of a formal framework for distribution network resilience in the current NER creates regulatory uncertainty around how DNSPs develop, and how the AER assesses, distribution resilience expenditure proposals. Under the current arrangements:

- there is no explicit requirement in the NER for DNSPs and the AER to take into account distribution network resilience
- there is no formal requirement in the NER for the AER to develop guidelines on how DNSPs may develop, and the AER may assess, proposed expenditure to support a resilient distribution network and supply of electricity to end users.

Although this does not prevent DNSPs undertaking or recovering the cost of resilience expenditure, the Commission considers that a formal framework will clarify how to test the efficiency of proposed resilience expenditure in advance (ex ante basis). Costs incurred and assessed ex post will remain subject to existing cost pass through provisions under clause 6.6.1 of the NER.

The lack of a formal framework may become more material given the increasing risk to distribution networks resulting from severe weather events exacerbated by climate change, such as bushfires, floods and severe storms. This in turn impacts on consumers who are affected by power outages caused by severe weather events. However, as long as power outages are not included in existing incentive mechanisms for DNSPs, there is no impetus or clear expectation to efficiently reduce the risk and impact on consumers of prolonged power outages caused by severe weather events.

3.1.2 The AER's guidance note is helpful but has some limitations

The AER has recognised the need for clarity around how distribution network resilience expenditure is treated under the NER, including taking into account climate change risks, and has developed a guidance note.[40] The purpose of the existing guidance note is to:

- support a shared understanding amongst consumer groups, advocates and other stakeholders of how ex ante network resilience expenditure will be treated under the NER[41]
- support DNSPs in developing ex ante network resilience expenditure proposals.[42]

The Commission considers the AER's existing guidance note provides some clarity around resilience expenditure, however it is not sufficient because it does not include reporting requirements to support transparency of and accountability for DNSP performance, or outcomes for consumers affected by severe weather events.[43]

The Commission considers that guidance on the assessment of resilience expenditure proposals should be treated the same as other elements of expenditure and so should be elevated into a guideline (whether new or existing). The AER will be able to consider lessons from the implementation of its guidance note for the NSW distribution determinations for the 2026-31 regulatory control period in developing the guideline in consultation with stakeholders.

3.1.3 Our final rule addresses stakeholder concerns by establishing a clearer framework for distribution network resilience

ANU, CEC, DNSPs, ENA and SMA Australia Pty Ltd considered the lack of a formal framework for distribution network resilience creates regulatory uncertainty.[44] Erne Energy and a private individual considered there was no problem with the current arrangements.[45]

Our final rule will address issues identified under the current arrangements by establishing a formal framework in the NER for distribution network resilience expenditure, planning and reporting, which will include:

40 AER, *Network resilience - A note on key issues*, April 2022, p. 4.

41 AER, *Network resilience - a note on key issues*, p. 4.

42 AER, *Network resilience - a note on key issues*, p. 4.

43 The final rule includes such reporting requirements in Schedule 5.8(j1), and requires the AER to set out further details in the guideline.

44 Submissions on consultation paper: ANU, p. 6; Ausgrid, p. 1; AusNet, p. 1; CEC, p. 1; EUAA, p. 2; ENA, p. 2; Endeavour Energy, p. 3; Energex and Ergon Energy, p. 1; Essential Energy, p. 1; Jemena, p. 1; SMA Australia Pty Ltd, p. 1 and TasNetworks, p. 1.

45 Submissions on consultation paper: Erne Energy, p. 1 and private individual, p. 1.

- new resilience expenditure factors that DNSPs and the AER will need to have regard to when developing and assessing capital and operating expenditure proposals for resilience, as explained in section 3.2
- formal guidelines which the AER must develop, publish and maintain in accordance with a set of requirements, as explained in section 3.3
- new distribution annual planning and reporting requirements for resilience, as explained in section 3.4.

3.2 Our final rule will require the AER to have regard to resilience expenditure factors when assessing DNSP expenditure proposals

Box 2: Final determination - the AER will need to have regard to new resilience expenditure factors in the NER

Our final rule will include new resilience expenditure factors in the NER. This means the AER must have regard to resilience expenditure factors when assessing DNSPs' forecast capital and operating expenditure proposals, which in turn, means DNSPs will need to consider these factors when they are developing their forecast capital and operating expenditure proposals.

Under the structure of NER clauses 6.5.6 and 6.5.7, the capital and operating expenditure factors are linked to the capital and operating expenditure criteria, which in turn are linked to the capital and operating expenditure objectives. Therefore, the new resilience expenditure factors are a driver or input, amongst others, into satisfying the expenditure objectives, including:

- maintaining the reliability, safety, security and quality of supply of standard control services, and
- maintaining the reliability, security and safety of the distribution system through the supply of standard control services.

This approach acknowledges the role of the DNSPs in satisfying their regulatory obligations in a way that accounts for risks to their networks and services to customers.

The final resilience expenditure factors refer to the extent to which the capital or operating expenditure forecast will efficiently reduce the risk and impact on consumers of power outages caused by severe weather events.

The existing expenditure factors in the NER will not change. The new resilience expenditure factors will be additional expenditure factors.

Changes from draft to final rule:

- None.

3.2.1 Currently the AER must have regard to a set of expenditure factors when assessing expenditure

Under the current NER, the AER is required to have regard to a set of expenditure factors when deciding whether to accept a DNSP's forecast of capital and operating expenditure for a regulatory control period, as explained in Box 3 below.

Box 3: Existing capital and operating expenditure factors for DNSPs in the NER

For DNSPs, the capital expenditure factors are set out in clause 6.5.7(e) of the NER and the operating expenditure factors are set out in clause 6.5.6(e) of the NER. The expenditure factors are drafted in the same way for capital and operating expenditure, however they include different references to other clauses in the NER.

The existing capital expenditure factors for DNSPs are set out below.

In deciding whether or not the AER is satisfied ...[that a DNSP's forecast of capital expenditure for a regulatory control period reasonably reflects the capital expenditure criteria under clause 6.5.7(c)], the AER must have regard to the following (the capital expenditure factors): ...

(4) the most recent annual benchmarking report that has been published under rule 6.27 and the benchmark capital expenditure that would be incurred by an efficient [DNSP] over the relevant regulatory control period;

(5) the actual and expected capital expenditure of the [DNSP] during any preceding regulatory control periods;

(5A) the extent to which the capital expenditure forecast includes expenditure to address the concerns of distribution service end users as identified by the [DNSP] in the course of its engagement with distribution service end users or groups representing them;

(6) the relative prices of operating and capital inputs;

(7) the substitution possibilities between operating and capital expenditure;

(8) whether the capital expenditure forecast is consistent with any incentive scheme or schemes that apply to the [DNSP] under clauses 6.5.8A or 6.6.2 to 6.6.4;

(9) the extent the capital expenditure forecast is referable to arrangements with a person other than the [DNSP] that, in the opinion of the AER, do not reflect arm's length terms;

(9A) whether the capital expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6.6A.1(b);

(10) the extent the [DNSP] has considered, and made provision for, efficient and prudent non-network options or SAPS options;

(11) any relevant final project assessment report published under clause 5.17.4(o), (p) or (s); and

(12) any other factor the AER considers relevant and which the AER has notified the [DNSP] in writing, prior to the submission of its revised regulatory proposal under clause 6.10.3, is a capital expenditure factor.

Source: NER v 227, clauses 6.5.6 and 6.5.7

The rule change request proposed new expenditure factors relating to resilience

The proponent proposed adding new resilience expenditure factors to the list of existing expenditure factors detailed in Box 3 above. In the rule change request, the proposed drafting of the resilience capital expenditure factor to be included in NER clause 6.5.7(e) was:[46]

The extent to which the capital and operating expenditure relates to the distribution network service provider's ability to prepare efficiently to resist, manage during, or recover from catastrophic events and severe weather events, which may lead to prolonged power outages, considering:

- *the benefits and costs of providing the expenditure as part of forecast capital expenditure or as a cost pass-through, and*
- *the likelihood and impact of the potential catastrophic events and severe weather events.*

46 Rule change request, p. 10.

The rule change request proposed the same drafting for the resilience operating expenditure factor in NER clause 6.5.6(e). This would result in consideration of resilience expenditure for both capital and operating expenditure.[47]

Stakeholders had a range of views but many supported new expenditure factors

The AER, CEC, DNSPs, ENA, Marsden Jacob and Amokabel Australia, Nexa Advisory, and SMA Australia Pty. Ltd. supported including resilience expenditure factors in the NER as they increase regulatory certainty.[48] ENA supported resilience expenditure factors and considered that it was important to strike a balance between ex ante expenditure to support resilience and ex post expenditure, as both were necessary to account for the unpredictability of severe weather events.[49]

Erne Energy, EUAA, JEC and a private individual did not support including resilience expenditure factors in the NER.[50] EUAA , Erne Energy [51] and JEC consider that including resilience expenditure factors in the NER would lower the bar for ex ante resilience expenditure, exposing consumers to significant risks of over-investment and inefficient network expenditure,[52] and potentially increase consumer bills. EUAA and Erne Energy suggested an alternative approach where resilience expenditure is addressed by using the existing expenditure factors and new formal AER guidelines.

The Commission considered the proposed rule and stakeholder comments in the context of the economic regulatory framework for networks

The Commission's views on the proposed expenditure factors and issues raised by stakeholders (above), in the context of the current rules, are set out below:

- The existing expenditure factors do not provide clarity on how forecast capital expenditure for resilience reasonably reflects the capital expenditure criteria under clause 6.5.7(c) or how forecast operating expenditure for resilience reasonably reflects the operating expenditure criteria under clause 6.5.6(c). We consider that a new resilience capital expenditure factor will help to clarify how forecast capital expenditure on resilience will meet the capital expenditure criteria[53] and a new resilience operating expenditure factor will help to clarify how forecast operating expenditure on resilience will meet the operating expenditure criteria.[54]
- The new resilience expenditure factors will not lower the bar for ex ante resilience expenditure but clarify how efficient resilience expenditure is to be determined, as explained in section 3.2.5. Given that the resilience expenditure factors require DNSPs and the AER to have to regard to efficiently reducing the risk and impact on consumers from power outages caused by severe weather events, and use existing provisions for expenditure assessment, we do not consider that the final rule will result in over-investment and inefficient network expenditure.
- Resilience expenditure is already possible under the current arrangements, however our final rule will provide regulatory clarity regarding the assessment of resilience expenditure

47 Rule change request, p. 11.

48 Submissions on consultation paper: AER original submission, p. 2; AusNet, p. 1; Ausgrid, p. 1; CEC, p. 1; ENA, p. 1; Essential Energy, p. 4; Energex and Ergon Energy, p. 1; Jemena, p. 2 and SMA Australia Pty. Ltd, p. 1. Submissions on draft determination: AER, p. 1; Ausgrid, p. 1; AusNet, p. 1; Endeavour Energy, p. 1; Energex and Ergon Energy, p. 2; Essential Energy, p. 2; Marsden Jacob and Amokabel Australia, p. 5; Nexa Advisory, p. 2; SA Power Networks, p. 1; SMA Australia Pty Ltd., p. 1; and TasNetworks, p. 1.

49 ENA, submission on consultation paper, p. 1.

50 Submissions on draft determination: Erne Energy, p. 1; EUAA, p. 1; JEC, p. 2; and Lynette LaBlack (private individual), p. 1.

51 Submissions on consultation paper: EUAA, p. 1 and Erne Energy, p. 1.

52 JEC, submission on draft determination, p. 2

53 Clause 6.5.7(c).

54 Clause 6.5.6(c).

proposals. The AER has approved expenditure proposals to reduce the risk of power outages on an ex ante basis, either as part of reliability or resilience expenditure programs. For example, following the February 2009 bushfires in Victoria, the AER approved 'Reliability and quality maintained' expenditure for Powercor in the 2011-15 regulatory control period to replace overhead line assets to reduce the risk of overhead line assets failing and causing bushfires, which could lead to short or prolonged power outages. [55] In the recent NSW distribution determinations, expenditure to address the risk of severe weather events was referred to as resilience expenditure, and was approved in part or in full by the AER.[56]

- The distribution cost component of a consumer's electricity bill may vary depending on a range of factors, including different climate change risks, consumer preferences and asset management approaches in different distribution network areas. Our final rule will support more efficient resilience expenditure and predictable regulatory outcomes than the current arrangements, supporting more efficient overall distribution expenditure (a combination of ex ante and ex post expenditure) in the longer term.
- The Commission also notes that our final rule will be complemented by existing NER provisions that prevent DNSPs from recovering upfront expenditure (ex ante) again as part of a cost pass through (ex post). Under the current NER, in assessing a cost pass through application, the AER must take into account whether the costs of the pass through event have already been factored into the calculation of the DNSP's annual revenue requirement for the regulatory control period (i.e. ex ante expenditure) in which the pass through event occurred or the DNSP's annual revenue requirement for a subsequent regulatory control period.[57] This supports accountability of DNSPs in relation to resilience expenditure, along with new annual reporting requirements, as outlined in section 3.4.

Stakeholder views and Commission response on payments for resilience

ECA and Erne Energy[58] were concerned that consumers are paying multiple times for resilience as consumers may need to fund:

- DNSP ex ante expenditure for routine asset maintenance and replacement to support reliability
- DNSP ex ante resilience expenditure (under the proposed rule)
- DNSP ex post cost pass through after a severe event, including Guaranteed Service Level (GSL) payments and asset repair costs
- their own electricity resilience (i.e. mobile generator).

We agree that consumers may, in some circumstances, pay varying amounts to support resilience. However, DNSPs' expenditure must be prudent and efficient as determined by the AER. As we acknowledge in section 3.2.5, DNSPs have already in some instances proposed resilience expenditure which has been approved by the AER. We note that in the recent NSW distribution determinations the AER approved resilience expenditure for NSW DNSPs that comprised 1-4% of the DNSPs' total expenditure for the regulatory control period. Consumers may also choose to invest in their own electricity resilience or have access to jurisdictional programs which support resilience. We consider that our final rule will improve the current arrangements by:

- improving the efficiency of DNSP ex ante resilience expenditure

55 AER, Victorian electricity distribution network service providers, *Final decision - Distribution determination 2011–2015*, October 2010, p. 405.
56 For more information, refer to Appendix B of the consultation paper.
57 NER, clause 6.6.1(j)(7).
58 Submissions on consultation paper: ECA, p. 12 and Erne Energy, pp. 9-10.

- clarifying that resilience expenditure relates to power outages caused by severe weather events.

3.2.2 Our final rule includes new resilience expenditure factors that the AER must have regard to when assessing expenditure proposed by DNSPs

Our final rule will include a new resilience capital expenditure factor and a new resilience operating expenditure factor, which are drafted in the same way, as set out below:[59]

> *"the extent to which the capital [operating] expenditure forecast would efficiently reduce the risk and impact on consumers of power outages caused by severe weather events"*

The new resilience expenditure factors are drafted in the same way for capital and operating expenditure for consistency with existing expenditure factors.[60] This was supported by Energex and Ergon Energy.[61]

Our final rule includes the following key elements:

- the scope is limited to power outages (of any length) caused by severe weather events and does not cover other catastrophic events, as explained in section 3.2.4 below
- the AER must have regard to the efficiency of resilience expenditure to reduce the risk and impact on consumers of power outages caused by severe weather events, as explained in section 3.2.5 below.

Our final rule is more preferable than the rule change request for the reasons set out in section 3.2.4 and section 3.2.5. Our final rule is also more preferable than the drafting proposed in the rule change request because it:

- is more consistent (in terms of length and detail) with the existing capital expenditure factors in clause 6.5.7(e) of the NER and the operating expenditure factors in clause 6.5.6(e) of the NER
- does not include references to cost benefit assessment and cost pass through as these are covered under existing NER provisions, so are not required again in the resilience expenditure factors.

Ausgrid and EUAA were concerned that the new resilience expenditure factors would not provide sufficient regulatory clarity regarding how DNSPs are to develop, and the AER is to assess, resilience expenditure proposals.[62] The Commission considers that our final rule determination provides sufficient clarity and flexibility, as summarised in Box 4 below.

59 Final rule, clauses 6.5.6(e)(4) and 6.5.7(e)(4).
60 NER clauses 6.5.6(e) and 6.5.7(e).
61 Energex and Ergon Energy, submission on consultation paper, p. 8.
62 Submission on draft determination: Ausgrid, p. 2 and EUAA, p. 3

Box 4: Summary of how our final rule determination provides sufficient clarity and flexibility in the development and assessment of resilience expenditure proposals

Our final rule determination provides regulatory clarity regarding the development and assessment of resilience expenditure proposals, as summarised below.

- It includes new resilience expenditure factors in the NER, as explained in sections 3.2.2 and 3.2.4.
- It does not require DNSPs to demonstrate a causal link between proposed resilience expenditure and the expected increase in power outages from severe weather events due to climate change, as explained in section 3.2.2.
- It clarifies that resilience is not distinct from reliability, but is an input or driver of maintaining reliability, safety, security or quality, and meeting the expected demand for supply services, as explained in section 3.2.3.
- It clarifies that existing provisions for expenditure assessment and stakeholder consultation will apply for resilience expenditure, as explained in section 3.2.6.
- It clarifies that our final rule complements the AER's value of network resilience, as explained in section 3.2.7.

Our final rule determination provides flexibility regarding the development and assessment of resilience expenditure proposals, as summarised below.

- Given resilience is an evolving area and DNSPs are likely to face different resilience issues, our final rule provides flexibility for DNSPs and the AER to account for different climate change risks, consumer preferences and asset management approaches between DNSPs, which may impact efficient resilience expenditure, as explained in section 3.3.2.
- It includes requirements for AER guidelines in the NER that provide the AER with a level of flexibility regarding the development of guidelines, as explained in section 3.3.
- It does not include a definition of resilience in the NER so that the AER may update its definition of resilience through its guidelines, as explained in section 3.2.3.

Our final rule does not require DNSPs to demonstrate a causal link between proposed resilience expenditure and an expected increase in power outages from severe weather events due to climate change

Erne Energy and EUAA suggested requiring DNSPs to demonstrate the causal relationship between proposed resilience expenditure and the expected increase in power outages from severe weather event due to climate change, through a definition of resilience in the NER[63] as is the case in the AER's current guidance note.[64] The Commission decided not to include a definition of resilience in the NER, as explained in section 3.2.3 below.

The Commission considered that requiring DNSPs to demonstrate a causal link between proposed resilience expenditure and the expected increase in power outages from severe weather events due to climate change would risk unnecessarily narrowing the range of distribution network resilience programs or initiatives that DNSPs may demonstrate are prudent and efficient. DNSPs should be able to plan to efficiently reduce the risk of power outages from all types of severe weather events, whether or not it is possible to demonstrate that the risk of each type of severe

63 Submissions on draft determination: Erne Energy, p.4 and EUAA, p. 4.

64 AER, *Network resilience – a note on key issues*, April 2022, p. 11.

weather event is likely to increase due to climate change. For example, the CSIRO forecasts that climate change will increase the number of dangerous fire weather days, while it is more challenging to attribute individual heavy rainfall events to climate change because interannual variability in heavy rainfall in Australia is high compared with most other parts of the world due to major climate influences including La Niña and the Indian Ocean Dipole.[65] This should not prevent DNSPs from proposing resilience expenditure to address flood risk, where the DNSP has demonstrated that this expenditure is prudent and would efficiently reduce the risk and impact on consumer of power outages caused by a severe flood event.

The Commission did not consider it necessary to include in the NER (such as in the expenditure factors) a requirement for DNSPs to demonstrate a causal link between proposed resilience expenditure and the expected increase in power outages from severe weather events due to climate change because of two interrelated reasons:

- scientific evidence already shows a clear link between climate change and the increasing severity of severe weather events, in general terms, and
- the economic assessment framework requires DNSPs to substantiate and have evidence for expenditure proposals, which are expected to include the impact of climate change on their network.

These reasons are explained below.

- **Scientific evidence is clear that severe weather events are exacerbated by climate change.**
  - CSIRO's 2022 State of the Climate report notes that there has already been an increase in extreme fire weather across large parts of Australia since the 1950s, which has led to larger and more frequent fires, especially in southern Australia.[66] We acknowledge there are different degrees of certainty, with the link between climate change and severe weather events clearer for some severe weather events than for others, as noted above in relation to flood risk.
  - The quality of climate change modelling and attribution science is expected to improve over time,however the proximate effect that DNSPs can and should consider is the impact of severe weather events on their networks. The new DAPR reporting requirements included in the final rule also require DNSPs to identify such risks when developing and implementing their asset management and investment strategies.
- **The existing economic assessment framework requires DNSPs to substantiate and have evidence for expenditure proposals, which are expected to include the impacts of climate change on their networks.**
  - DNSPs will need to demonstrate that resilience expenditure proposals are prudent and efficient to meet relevant evidentiary requirements, including the existing provisions for expenditure assessment and stakeholder consultation, as explained in section 3.2.6. The AER may decide to update any other documents to account for the final rule, such as the Expenditure forecasting assessment guidelines.
  - Our final rule[67] requires the AER to provide examples of the types of information DNSPs could use in their regulatory proposals to support resilience expenditure forecasts, including information on climate change impacts.

65 CSIRO, *State of the Climate 2024 - Australia's weather and climate including temperature, fire weather, rainfall, heavy rainfall, streamflow, tropical cyclones, snowfall*, Website viewed 20 April 2025, https://www.csiro.au/en/research/environmental-impacts/climate-change/state-of-the-climate/australias-changing-climate

66 CSIRO, 2022 State of the Climate report. Website viewed 14 April 2025. https://www.csiro.au/en/research/environmental-impacts/climate-change/State-of-the-Climate/Previous/State-of-the-Climate-2022/Report-at-a-Glance

67 NER clause 6.4.6(a)(2)

- Our final rule also includes new planning requirements in the DAPR[68] for DNSPs to identify risks of power outages caused by severe weather events, taking into account the impacts of climate change. Therefore, the effect of the final rule is that DNSPs will need to consider the impacts of climate change on their networks, including when developing and implementing their asset management plans and strategies.[69]

Taking the above reasons into consideration, the expectation is that resilience expenditure proposals relating to severe weather events will be informed by the risks of climate change. Therefore, an explicit link to climate change in the NER (for example through the expenditure factors), or to require DNSPs to demonstrate that climate change will increase the risk of severe weather events, is not required.

Therefore, under our final rule:

- the AER and DNSP's must have regard to the resilience expenditure factors in the NER, which do not explicitly require DNSPs to demonstrate the causal relationship between proposed resilience expenditure and climate change impacts on the risk of severe weather events
- the AER must replace its informal guidance note on resilience by developing formal guidelines that reflect the final rule. In reflecting the final rule, the guidelines will not require a causal link or relationship between proposed resilience expenditure and increasing risk of severe weather events from climate change.

It is clear that in the context of climate change, resilience is important for electricity transmission as well as distribution

Our final rule provides clarity in the rules for DNSPs as the issues raised in the rule change request related to resilience for electricity distribution and not electricity transmission. TNSPs are already able to seek approval for resilience expenditure under the current economic regulatory framework and our final rule will not change these arrangements and should not create any uncertainty relating to these existing arrangements.

We also note there are existing arrangements to manage the impact of transmission network outages that impact the distribution network, for example DNSPs are obliged or expected to communicate directly with any distribution-connected customers impacted by transmission outages. Our final rule, combined with these existing arrangements, supports outcomes for consumers from transmission network outages.

3.2.3 The new resilience expenditure factors will support the expenditure objectives by maintaining reliability, safety, security and quality

Our final rule includes new resilience expenditure factors in the NER. This means that the AER will have to have regard to resilience expenditure factors when assessing DNSPs' forecast capital and operating expenditure proposals. In turn, this means DNSPs must consider these factors when they are preparing their forecasts for capital and operating expenditure. The new resilience expenditure factors will support the expenditure objectives by maintaining reliability, safety, security and quality, as explained further below.

68 NER clause 5.13.1(d)(7)
69 NER Schedule 5.8 clause S5.8(k)(1B)

We do not consider resilience to be distinct from reliability and we have not included a definition of resilience in the NER

ECA, Erne Energy and EUAA suggested including a definition of resilience in the NER or guidelines to support the AER in identifying whether ex ante resilience expenditure proposals are efficient.[70] EUAA and Erne Energy suggested including a definition of resilience in the NER to clarify the distinction between resilience and reliability, for example by defining resilience in relation to Major Event Days (MEDs) which are excluded from reliability incentives in the Service Target Performance Incentive Scheme (STPIS).[71]

ENA supported the draft rule to not define resilience in the NER as this would provide flexibility in the assessment of resilience expenditure proposals.[72]

The Commission has not defined resilience in the NER. The AER already has a definition of resilience in its guidance note, which the AER may update when it develops guidelines to improve its guidance to DNSPs. This will also enable the definition to evolve over time as appropriate in consultation with stakeholders, noting the evolving nature of our understanding of severe weather events and the interaction with climate change. As noted below, the Commission does not consider that resilience is distinct from reliability but can support maintaining the reliability, safety, security and quality of supply of standard control services and the reliability, security and safety of the distribution system through the supply of standard control services.

We have not included resilience in the expenditure objectives but the new resilience factors will support the expenditure objectives

CEC and some DNSPs[73] suggested including resilience in the NER expenditure objectives.[74]

The Commission considered whether it would be more appropriate to include resilience in the expenditure objectives or the expenditure factors. We concluded that the expenditure factors were the more appropriate place, given the expenditure objectives relate to higher-level requirements including the requirements in the NEO. We also note that, under the structure of current NER clauses 6.5.6 and 6.5.7, the capital and operating expenditure factors are linked to the capital and operating expenditure criteria, which in turn are linked to the capital and operating expenditure objectives.

The new resilience expenditure factors will support the expenditure objectives by maintaining reliability, safety, security and quality

CEC and some DNSPs[75] suggested amending the NER expenditure objectives from "maintaining" to "improving" the quality, reliability and security of supply of standard control services, and reliability and security of the distribution system through the supply of standard control services.[76] In relation to the suggestion to change certain expenditure objectives from "maintaining" to "improving", the Commission considers that this change would not be well-targeted to address the issues raised in the rule change request, and may have far-reaching consequences.

70 Submissions on consultation paper: ECA, p. 3; Erne Energy, p.3 and EUAA, p. 2.
71 Submissions on draft determination: EUAA, p. 4; and Erne Energy, p. 3.
72 ENA, submission on draft determination, p. 1.
73 Submissions on consultation paper: Ausgrid, p 1; CEC, p. 1; Endeavour Energy, p. 4 and Essential Energy, p. 4.
74 NER clauses 6.5.6(a) and 6.5.7(a).
75 Submissions on consultation paper: Ausgrid, p 1; CEC, p. 1; Endeavour Energy, p. 4 and Essential Energy, p. 4.
76 NER clause 6.5.6(a)(3) and 6.5.7(a)(3).

Erne Energy and EUAA sought clarity on how the AER is to assess resilience expenditure proposals.[77] Ausgrid and Essential Energy sought clarity on how the new resilience expenditure factors will interact with the expenditure objectives for the assessment of resilience expenditure proposals.[78]

- Ausgrid considered that a requirement to "maintain the reliability, safety, security and quality of supply" (expenditure objectives above), rather than "improve the reliability, safety, security and quality of supply", made it difficult for Ausgrid to justify resilience expenditure proposals in its 2024-29 distribution determination.[79]
- EUAA supports the aspect of the AER's existing guidance note which states that the objective of resilience expenditure is to maintain service levels for reliability, safety, security and quality of supply. EUAA does not support the objective of resilience expenditure to improve service levels for reliability, safety, security and quality of supply.[80]

The Commission notes that under the structure of NER clauses 6.5.6 and 6.5.7, the capital and operating expenditure factors are linked to the capital and operating expenditure criteria, which in turn are linked to the capital and operating expenditure objectives. Therefore, the new resilience expenditure factors in the final rule are a driver or input, amongst others, to satisfying the expenditure objectives, including:

- meeting or managing the expected demand for standard control services[81]
- to the extent there is no applicable regulatory obligation or requirement, maintaining the reliability, security and quality of supply of standard control services,[82] and maintaining the reliability and security of the distribution system,[83] and
- maintaining the safety of the distribution system through the supply of standard control services.[84]

This approach acknowledges the role of the DNSPs in satisfying their regulatory obligations in a way that accounts for risks to their networks and services to customers.

This final rule means that resilience expenditure may be an input or driver to maintaining the above elements of the expenditure objectives (e.g. meeting expected demand, and maintaining reliability, safety, security or quality). For example, the AER recently approved DNSP resilience expenditure proposals for:

- Endeavour Energy to replace high voltage overhead conductor linear assets with covered conductors in high bushfire risk areas to address both safety and reliability risks from severe weather events.[85]
- Ausgrid's community resilience program which included safety messaging related to power outages. [86]

The Commission also notes that the new resilience expenditure factors are one of a number of expenditure factors that DNSPs and the AER must have regard to in developing and assessing

77 Submissions on draft determination: Erne Energy, p. 6 and EUAA, p. 6.
78 Submissions on draft determination: Ausgrid, p. 2; and Essential Energy, p. 2.
79 Ausgrid, submission on draft determination, p. 2.
80 EUAA, submission on draft determination, p.6.
81 NER clauses 6.5.6(a)(1) and 6.5.7(a)(1).
82 NER clauses 6.5.6(a)(3)(iii) and 6.5.7(a)(3)(iii)
83 NER clauses 6.5.6(a)(3)(iv) and 6.5.7(a)(3)(iv).
84 NER clauses 6.5.6(a)(4) and 6.5.7(a)(4)
85 AER, *Draft decision - Endeavour Energy Electricity Distribution Determination, 2024 to 2029 (1 July 2024 to 30 June 2029),* Attachment 5 - Capital expenditure, p. 17.
86 AER, *Ausgrid Electricity distribution determination 2024 to 2029 (1 July 2024 to 30 June 2029),* Attachment 5 - Capital expenditure, p. 30.

resilience expenditure proposals. In addition, DNSPs and the AER must take into account other existing provisions in the NER for the assessment of expenditure, as explained in section 3.2.6.

For these reasons, the Commission considers it is appropriate to incorporate resilience into the expenditure factors.

3.2.4 The scope of resilience expenditure factors is limited to power outages caused by severe weather events

Under our final rule, resilience expenditure factors will apply to power outages caused by severe weather events, and will not cover other catastrophic events.

The rule change request proposed that resilience expenditure factors should cover prolonged power outages caused by severe weather events and other catastrophic events (e.g. cyber-security and other risks to network safety such as terrorism).[87]

Stakeholders had mixed views on the proposed scope of resilience expenditure factors:

- The AER, AGL and Nexa Advisory supported the final rule to limit the scope to power outages caused by severe weather events.[88]
- Erne Energy, EUAA and JEC supported limiting the scope to prolonged power outages caused by severe weather events.[89] JEC considered that, given that DNSPs are already subject to Commonwealth legislation on cyber-security and other risks to network safety (e.g. terrorism), it was not necessary for the rule change to cover prolonged power outages caused by other catastrophic events.
- ENA, Energex and Ergon Energy supported a scope that covered prolonged power outages caused by severe weather events and other catastrophic events.[90]

Our final rule is more preferable than the rule change request as it narrows the scope of the resilience expenditure to risks which are not well-covered by existing requirements. The Commission considers that DNSPs have existing regulatory obligations that cover cyber-security and the safety of the network both within and outside the NER, as outlined in Appendix D. In contrast, DNSPs do not currently have explicit regulatory obligations regarding planning for, responding to and reporting on severe weather risks.

DNSPs are currently able to propose expenditure to address cyber-security and network safety risks, which the AER has approved. This means there are no impediments to DNSPs seeking funding to address cyber-security and network safety risks under the current economic regulatory framework.

3.2.5 The resilience expenditure factors focus on the efficiency of expenditure to reduce the risk and impact on consumers of power outages caused by severe weather events

Our final rule requires the AER to have regard to the efficiency of proposed resilience expenditure to reduce the risk and impact on consumers of power outages caused by severe weather events,[91] by utilising existing consultation and expenditure assessment processes.

87 Rule change request, p. 10.
88 Submissions on draft determination: AER, p. 1; AGL, p. 1; and Nexa Advisory, p. 2.
89 Submission on consultation paper: JEC, p. 6. Submissions on draft determination: Erne Energy, p. 4; EUAA, p. 7 and JEC, p. 5.
90 Submissions on consultation paper: ENA, p. 1 and Energex and Ergon Energy, p. 9.
91 Final rule, clause 6.5.6(e)(4) and clause 6.5.7(e)(4).

Our final rule focuses on the impact on consumers

ECA and Erne Energy noted that the drafting for the expenditure factors proposed in the rule change request focused on the resilience of the DNSP and did not focus on outcomes for consumers from power outages.[92]

The Commission considers that the resilience expenditure factors should focus on the impact of outages on consumers. In addition, the implementation of resilience expenditure factors by DNSPs and the AER will be guided by the AER's guidelines, which include a focus on outcomes for consumers, as explained in section 3.3.

Our final rule focuses on the risk of power outages caused by severe weather events

Our final rule refers to efficient resilience expenditure to reduce the risk of power outages caused by severe weather events. For example, DNSPs could relocate substations that are in flood prone areas or areas affected by storm surges and sea level rise.

ANU, ECA, EUAA and Erne Energy considered that resilience expenditure should primarily be for DNSPs' readiness for and response to severe weather events, rather than upfront spending to reduce the risk of severe weather events.[93] Stakeholders noted that:

- consumers that had experienced a severe weather event value readiness and response after the event, rather than risk reduction investment before an event[94]
- with the exception of floods and bushfires (noting that these are key types of severe weather events in Australia), climate change models are not currently able to predict the location of severe weather events with sufficient certainty to justify ex ante expenditure.[95]

The Commission considers that upfront expenditure to reduce the risks of severe weather events may be efficient in some circumstances,[96] as per the current arrangements. The AER recently approved DNSP expenditure to reduce the risk of severe weather events as part of the NSW DNSP's 2024-29 distribution determinations, as set out in Box 5 below.

Box 5: Resilience expenditure proposed by NSW DNSPs and approved by the AER for 2024-29 regulatory control period

Ausgrid

- Ausgrid proposed climate resilience expenditure of $119.6 million for projects on network resilience, bushfire resilience, extreme heat resilience, community resilience and response effectiveness
- The AER approved $41 million of this expenditure.

Endeavour Energy

- Endeavour Energy proposed expenditure of $28 million to replace high voltage overhead conductor linear assets with covered conductor in high bushfire risk areas, and improve network resilience to flood events by reconstructing high voltage and transmission overhead conductor spans identified as being at risk of flood impact and installing automated switches across the network

92 Submissions on consultation paper: ECA, p. 14 and Erne Energy, p. 3.
93 Submissions on consultation paper: ANU, p. 18; ECA, p. 14; EUAA, p. 7 and Erne Energy, p. 2.
94 Submissions on consultation paper: ECA, p. 29; EUAA, p. 7 and Erne Energy, p. 2.
95 Submissions on consultation paper: ECA, p. 5; EUAA, p. 6 and Erne Energy, p. 1.
96 To be assessed by the AER using the final rule and existing expenditure assessment arrangements.

- The AER approved $28 million of this expenditure.

Essential Energy

- Essential Energy proposed expenditure of $204 million to address bushfire risk, flood risk and windstorm risk. This included a range of different resilience programs, including:risk-based pole replacement undergrounding high risk locations community resilience through investments in domestic and industrial grade generators, portable SAPS, portable solar streetlights, a portable depot and a communications van/hub.
- The AER approved $204 million of this expenditure.

Source: AER, Final decision - *Ausgrid Electricity distribution determination 2024 to 2029 (1 July 2024 to 30 June 2029) - Attachment 5 – Capital expenditure*, p. 18; AER, *Final decision - Endeavour energy Electricity distribution determination 2024 to 2029 (1 July 2024 to 30 June2029) - Overview*, p. 16; AER, *Final decision - Essential energy Electricity distribution determination 2024 to 2029 (1 July 2024 to 30June 2029) - Overview*, p. 18; AER.

Given that climate change is expected to increase the frequency and severity of severe weather events such as floods, storms and bushfires, the Commission considers that it is prudent that DNSPs consider the efficiency of options to address these risks. These options may include upfront expenditure for projects or programs to reduce risks of these events.

The Commission considers that in assessing how to efficiently reduce the risk of severe weather events, DNSPs should consider location-specific and non-location specific resilience investments which may use network, non-network and SAPS options (where they may apply).[97]

However, resilience expenditure should not focus only on reducing the risks of events occurring. Under the final rule, DNSPs could consider the efficiency of upfront expenditure to reduce the risk and impact on consumers of power outages caused by severe weather events in a range of ways, such as:

- improving the DNSP's ability to respond in a flexible manner at any location where a severe weather event may impact the network (e.g. mobile substations)
- supporting effective communication with consumers, emergency services personnel and other relevant bodies (such as local, state and Commonwealth government agencies, providers of other affected services such as telecommunications, transport and health, and other energy service providers who are also affected by the event, e.g. TNSPs) before, during and after a severe weather event (e.g. communication systems)
- providing a level of electricity supply, in a prompt manner, to support consumers' essential needs while the DNSP works to restore full supply through its network (e.g. mobile generators at community hubs).[98]

3.2.6 Existing provisions on cost-benefit assessments and stakeholder consultation will apply

Our final rule utilises existing expenditure assessment processes, including cost benefit analysis, to assess the efficiency of proposed resilience expenditure

The AER supported clarifying that the assessment of resilience expenditure should use cost benefit analysis to compare the efficiency of estimated expenditure on an ex ante basis or ex post basis.[99] The Commission supports the use of cost benefit analysis to assess the lowest cost

97 Under existing clauses 6.5.6(e)(10) and 6.5.7(e)(10) DNSPs are to consider efficient and prudent non-network options and SAPS options.

98 See clause 6.4.6(a)(1) of the final rule.

99 AER, original submission on consultation paper, p.3.

option in Net present value (NPV) terms. For example, by comparing the NPV of the following options to address bushfire risk through ex ante or ex post expenditure:

- **Option 1: "**Do nothing" option, where there is no upfront expenditure to reduce bushfire risk before the event and all costs are incurred after the event through a cost pass through (ex post).
- **Option 2:** Upfront expenditure to reduce bushfire risk (ex ante). It's likely that this risk could not be reduced to zero, so some ex post expenditure may still be required, but this would likely be a smaller amount than would be expected in Option 1.

However, our final rule does not include references to cost benefit analysis in the resilience expenditure factors because the existing economic regulatory framework will apply to the assessment of forecast expenditure, including the use of a cost benefit assessment. This is more preferable than the rule change request which proposed to specifically include references to cost benefit analysis in the resilience expenditure factors.[100]

The AER's Expenditure forecast assessment guidelines set out how the AER considers whether forecast capital and operating expenditure reasonably reflects the expenditure criteria, by applying certain assessment approaches and a variety of assessment techniques, including a cost benefit assessment.[101]

The AER's Expenditure forecast assessment guidelines explain how cost benefit analysis is an assessment technique that the AER will likely use to assess expenditure. The AER expects DNSPs to submit forecast expenditure for projects and programs using cost benefit analysis in general.[102] Cost benefit analysis:[103]

- involves assessing whether forecast expenditure is expected to be the lowest cost option relative to other options in NPV terms
- is a technique that indicates, all else being equal, the relative efficiency of the different options
- is typically justified via a business case for individual projects or programs that materially affect forecast expenditure.

The Commission considers that the existing economic regulatory framework, including cost benefit analysis, should be used to assess proposed resilience expenditure to ensure efficient outcomes for consumers. No changes to the rules are required for this.

ECA suggested that the AER should be required to consider a different approach to cost benefit analysis of resilience expenditure from the current approach that is applied to other network expenditure proposals. ECA suggested that resilience expenditure is unique and the existing approach to cost benefit analysis may not capture all of the social, economic and environmental factors, particularly in relation to climate change, that are relevant for resilience investments.[104]

The Commission notes that it is the AER's role under the NER to publish, develop and amend (if the AER decides) the Expenditure Forecast Assessment Guidelines, which include cost benefit analysis.[105] It is appropriate that the AER retains its ability to decide whether to amend its approach to cost benefit analysis in general or in relation to a specific category of network expenditure. Distribution network resilience approaches to efficiently manage climate change risk

100 Rule change request, p. 12.
101 AER, *Expenditure forecast assessment guidelines for electricity distribution*, October 2024, p.7.
102 AER, *Expenditure forecast assessment guidelines for electricity distribution*, October 2024, p.13.
103 AER, *Expenditure forecast assessment guidelines for electricity distribution*, October 2024, p.13.
104 ECA, submission on draft determination, pp. 6-7.
105 NER clauses 6.2.8(a)(1) and 6.2.8(e)

are evolving and rapidly developing. The AER is best placed to decide on its approach to cost benefit analysis for resilience expenditure, so we have not required the AER to apply a different approach to cost benefit analysis for resilience expenditure.

SA Power Networks suggested that the drafting of the resilience expenditure factors in the draft rule be clarified to include direct and indirect impacts on consumers (e.g. physical harm to people and property damage from severe weather events).[106] Given that the final rule will utilise existing expenditure assessment processes to assess proposed resilience expenditure, no changes are required to the rules for this.

Our final rule utilises existing consultation processes in distribution determinations for the assessment of resilience expenditure

Our final rule will use existing consultation processes in distribution determinations for DNSPs and the AER to engage with stakeholders and assess whether resilience expenditure is prudent and efficient. Through these consultation processes, DNSPs will need to engage with stakeholders and take into account consumer preferences for resilience expenditure.

Under the current arrangements:

- DNSPs have to report on how they have consulted with stakeholders in developing their regulatory proposals under NER clause 6.8.2
- The AER must consult on DNSPs' draft determinations under clause 6.10.2
- the AER's *Better resets handbook - Towards consumer-centric network proposals* (the handbook) seeks to encourage NSPs to better engage and have consumer preferences drive the development of regulatory proposals, supporting regulatory outcomes that reflect the long-term interests of consumers.[107]

The rule change request proposed that the NER set out the expected level of consultation by DNSPs in relation to resilience expenditure proposals.[108] ECA and Erne Energy[109] suggested that further work is required on an engagement framework to support good engagement between DNSPs, consumers and communities on distribution resilience. These stakeholders noted that it is important for DNSPs to engage with their customers and understand how the needs and preferences of their customers may differ between communities that are likely to be directly impacted by severe weather events and those are less likely to be affected.

DNSPs noted their recent engagement with stakeholders on resilience expenditure proposals. Ausgrid for example noted that it held deliberative forums with more than 100 consumers in the process of developing its resilience expenditure proposals for the 2024-29 regulatory control period.[110]

The Commission considers it important that DNSPs are accountable and engage well with consumers, communities and other stakeholders on proposed distribution resilience expenditure. The Commission considers that our final rule supports this as:

- existing consultation processes for distribution determinations will apply, where DNSPs are required to engage with relevant stakeholders on expenditure proposals, including resilience expenditure (if any), and

106 SA Power Networks, submission on draft determination, p. 2.
107 AER, *Better Resets Handbook - Towards Consumer Centric Network Proposals,* December 2021.
108 The proponent proposed to require that the AER set this out in the guidelines. *Rule change request*, p. 10.
109 Submissions on consultation paper: ECA, p. 14 and Erne Energy, p. 7.
110 Ausgrid, submission on consultation paper, p. 3.

- the final rule includes new annual planning and reporting requirements on DNSPs for resilience, as explained in section 3.4.

3.2.7 Our final rule complements the AER's value of network resilience

Our final rule complements existing arrangements around the VNR. Resilience expenditure will be proposed and assessed based on resilience expenditure factors, informed by the VNR.

The AER has set an initial value of the VNR[111] that will apply for the Victorian distribution network electricity determinations for 2026-31, which the AER expects DNSPs to use to inform their proposed resilience expenditure in their regulatory proposals.[112]

The final rule provides that from 1 October 2025 the AER must take into account the resilience expenditure factors and definition of resilience expenditure when reviewing the Victorian DNSPs' revised regulatory proposals and preparing the final distribution determinations for the 2026-31 regulatory control period.[113]

EUAA and Erne Energy considered that the AER's guidelines should explicitly set out how the initial VNR should be taken into account in DNSPs' resilience expenditure proposals.[114] Endeavour Energy suggested that the guidelines should include worked examples of how the VNR is applied in justifying resilience expenditure proposals.[115]

The Commission does not consider the NER should require the AER guidelines to set out how the VNR should be taken into account in resilience expenditure proposals or to provide worked examples of how the VNR is applied in justifying resilience expenditure proposals. While the AER may decide to explain this or provide worked examples in the guidelines, we do not consider this should be required. This is consistent with requirements for other AER guidelines under Chapter 6 of the NER which do not require the AER to explicitly set out how similar inputs such as the Value of customer reliability (VCR) or Value of emissions reduction (VER) are taken into account in assessing DNSP expenditure proposals.

3.3 Our final rule requires the AER to develop network resilience guidelines that meet a set of NER requirements

Box 6: Final determination - The AER will be required to develop Network resilience guidelines

Our final rule will require the AER to develop, publish and maintain guidelines in accordance with the Rules consultation procedures.

The guidelines will need to meet a set of requirements in the NER, including:

- providing examples of resilience expenditure

111 AER, Value of network resilience 2024, Final decision, p. 1.

112 We note that our final rule will allow resilience expenditure factors to be taken into account in the Victorian DNSPs' revised regulatory proposals and the AER's final distribution determinations for the 2026-31 regulatory control period, as explained in section 3.5. This means that under the final rule the VNR will apply in conjunction with resilience expenditure factors for those DNSPs.

113 Final rule, clause 11.185.3.

114 EUAA, submission on consultation paper, p. 13. Submissions on draft determination: Erne Energy, p. 1; and EUAA, p. 5.

115 Endeavour Energy, submission on draft determination, p. 2.

- providing examples of the types of information DNSPs could include in their regulatory proposals to support forecast resilience expenditure, including information on climate change impacts
- specifying information DNSPs must include in their DAPR on the performance of the DNSP and outcomes for consumers in any severe weather events that occurred in the preceding year
- explaining how resilience expenditure will be addressed in the network incentive schemes developed by the AER.

Changes from draft to final rule:

- The final rule amends the draft rule at clause 6.4.6(a)(1)(i) to clarify that examples may include expenditure which will assist DNSPs to continue to 'safely provide adequate network services'. The final rule supports the safety assessment criteria by clarifying the importance of safety for DNSP personnel and other parties in the provision of network services.

3.3.1 The AER must develop, publish and maintain guidelines

Our final rule will require the AER to develop, publish and maintain guidelines that:[116]

- must be developed in accordance with the Rules consultation procedures and transitional rules[117], as explained in section 3.5.2;
- may be replaced or amended, from time to time, in accordance with the Rules consultation procedures;[118]
- must be in force at all times after the date on which the AER first publishes the guidelines (1 December 2026 as explained in section 3.5.2);[119]
- may be new stand-alone guidelines or included as part of the same document as another guideline, for example the AER could include the guidelines in the AER's existing Expenditure forecast assessment guidelines published under Chapter 6 of the NER.[120]

Under our final rule the guidelines will not directly bind the AER or anyone else. However, if the AER were to make a distribution determination that is not in accordance with the guidelines, the AER will need to state reasons for departing from the guideline in its distribution determination.[121] This is consistent with other guidelines published under Chapter 6 of the NER.[122] In addition, DNSPs will be required to comply with the reporting requirements in the guidelines.[123] The AER and TasNetworks supported the guidelines not directly binding the AER or anyone else.[124] EUAA originally supported binding guidelines[125], but after discussion with the Commission, EUAA supported the guidelines not directly binding the AER or anyone else.[126] Erne Energy and JEC consider that the guidelines should be binding.[127]

116 Final rule, clause 6.4.6(a).
117 Final rule, clause 6.4.6(a) and clause 11.185.2
118 Final rule, clause 6.4.6(d).
119 Final rule, clause 6.4.6(c).
120 Final rule, clause 6.4.6(b).
121 Final rule clause 6.2.8(a) and NER clause 6.2.8(c)(1).
122 NER clause 6.2.8.
123 Final rule clause S5.8(j1) and NER clause 5.13.2(c).
124 Submissions on draft determination: AER, p. 1; and TasNetworks, p. 2.
125 EUAA, submission on consultation paper, p. 5.
126 EUAA, submission on draft determination, p. 5.
127 Submissions on draft determination: Erne Energy, p. 1 and JEC, p. 3.

The proponent proposed to replace the existing AER guidance note with AER guidelines.[128] The AER, DNSPs, ECA, ENA, EUAA, Marsden Jacob and Amokabel Australia, Nexa Advisory, and SMA Australia Pty Ltd. supported a requirement in the NER for the AER to develop formal guidelines to improve regulatory clarity.[129] The AER appreciated the need for regulatory clarity through guidelines. However, the AER suggested that the guidelines should not be too prescriptive and provide flexibility given that resilience is an evolving area where different DNSPs are likely to face different resilience issues.[130]

As noted in section 3.1, the Commission considers that the AER's existing guidance around distribution network resilience could be improved through the development of formal guidelines. In developing the guidelines, the AER may draw upon its existing guidance note and lessons learnt from applying the resilience expenditure factors in the AER's distribution determinations for the Victorian DNSPs for the 2026-31 regulatory control period.

3.3.2 The AER's guidelines must accord with a set of requirements in the NER

Our final rule requires that the AER develop guidelines to meet the following requirements:[131]

(a) The AER must, in accordance with the Rules consultation procedures, develop, maintain and publish guidelines (the Network Resilience Guidelines) that:

- *(1) provide examples of resilience expenditure, which may include expenditure to assist Distribution Network Service Providers to:*
  - *(i) continue to safely provide adequate network services despite severe weather events;*
  - *(ii) communicate effectively with consumers, emergency services personnel and other relevant bodies before, during and after a severe weather event; and*
  - *(iii) promptly provide a level of supply to support consumers' essential needs while the Distribution Network Service Provider works to restore full supply through its network, if a power outage occurred as a result of a severe weather event;*
- *(2) provide examples of the types of information Distribution Network Service Providers could include in their regulatory proposals to support forecasts of resilience expenditure, including information on climate change impacts;*
- *(3) specify the information Distribution Network Service Providers must include in their Distribution Annual Planning Reports under clause S5.8(j1);*
- *(4) explain how resilience expenditure will be addressed in incentive schemes provided for in this Chapter; and*
- *(5) include any other matters the AER considers relevant.*

(b) Nothing prevents the AER from publishing the Network Resilience Guidelines in the same document as another guideline published under this Chapter.

(c) There must be Network Resilience Guidelines in force at all times after the date on which the AER first publishes the Network Resilience Guidelines under the Rules.

128 Rule change request, p. 10.

129 Submissions on consultation paper: AusNet, p. 1; Energex and Ergon Energy, p. 5; EUAA, p. 2; ENA, p. 2; Endeavour Energy, p. 3; Essential Energy, p. 1; Jemena, p. 1; SMA Australia Pty Ltd., p. 2 and TasNetworks, p. 2. Submissions on draft determination: AER, p. 1; Ausgrid, p. 1; AusNet, p. 1; ECA, p. 2; ENA, p. 1; Endeavour Energy, p. 2; Energex and Ergon Energy, p. 4; Essential Energy, p. 2; EUAA, p. 1; Marsden Jacob and Amokabel Australia, p. 6; Nexa Advisory, p. 2; SMA Australia Pty. Ltd., p. 1; TasNetworks, p. 2.

130 AER, original submission on consultation paper, p. 2.

131 Final rule, clause 6.4.6.

(d) The AER may, from time to time and in accordance with the Rules consultation procedures, amend or replace the Network Resilience Guidelines.

(e) Clauses 6.2.8(e) and (f) do not apply to the Network Resilience Guidelines.

These requirements have a similar level of prescription as provisions for other AER guidelines under Chapter 6 of the NER.

Our final rule includes a definition of resilience expenditure[132] which refers to the kinds of capital and operating expenditure outlined in the new resilience expenditure factors.[133]

The guideline provision in the final rule is more preferable than the proposed guideline provision in the rule change request as explained below.

- **Our final rule has a greater focus on outcomes for consumers,** including vulnerable consumers who may be less resilient to the impacts of severe weather events, as it will require that the AER guidelines set out examples of resilience expenditure that consumer groups considered were important in supporting outcomes for consumers, including expenditure for DNSPs to:
  - communicate effectively with consumers, emergency services personnel and other relevant bodies before, during and after a severe weather event[134]
  - promptly provide a level of supply to support consumers' essential needs while the DNSP works to restore full supply through its network, if a power outage occurred as a result of a severe weather event.[135]
- **Our final rule provides more flexibility for the AER and DNSPs** to account for different climate change risks, consumer preferences and asset management approaches between DNSPs which may impact efficient resilience expenditure. This is important given that distribution network resilience approaches to efficiently managing climate change risk are evolving and rapidly developing. Our final rule will not require the AER to set out the methods, models and data that DNSPs use to justify forecast resilience expenditure.[136] However, our final rule will require the AER to provide examples of the type of information DNSPs may include in their proposals to support forecast resilience expenditure, including information on climate change impacts.[137]
- **Our final rule will include performance reporting requirements for DNSPs.** Our final rule will require the AER to specify the information on the performance of the DNSP and outcomes for consumers in any severe weather events that occurred in the preceding year, which DNSPs must report on in their DAPRs.[138] This is also covered in section 3.4. Nexa Advisory supported performance metrics for DNSP resilience activities and expenditure.[139]
- **Our final rule will rely on existing stakeholder consultation processes in distribution determinations** rather than requiring the guideline to set out new requirements on DNSP stakeholder consultation on resilience expenditure, which was proposed in the rule change request.[140] For more information, refer to section 3.2.5.

132 Final rule, Glossary - Definition of resilience expenditure.
133 Final rule, clauses 6.5.6(e)(4) and 6.5.7(e)(4).
134 Final rule, clause 6.4.6(a)(1)(ii).
135 Final rule, clause 6.4.6(a)(1)(iii).
136 Rule change request, p. 10-11.
137 Final rule, clause 6.4.6(a)(2).
138 Final rule, clauses S5.8(j1) and 6.4.6(a)(3).
139 Nexa Advisory, submission on draft determination, p. 2.
140 Rule change request, p. 10

The guideline provision in the final rule is more preferable than the draft rule as it explicitly refers to the safe provision network services, despite severe weather events.

- Energex and Ergon Energy suggested amending the example of resilience expenditure in clause 6.4.6(a)(1)(i) of the draft rule, that related to continuing to adequately provide network services despite severe weather events, to add "when possible and safe to do so".[141] Marsden Jacob and Amokabel Australia also highlighted the importance of safety for DNSP staff repairing network assets during and after severe weather events.[142]
- The Commission notes that DNSPs must always comply with safety requirements set out in jurisdictional legislation, which remain unaffected by this rule. Nevertheless, to recognise the importance of safety the final rule includes a reference to "safely providing adequate network services despite severe weather events", in the first example of resilience expenditure in the AER guideline provision.[143] This change supports the safety assessment criteria through the safe provision of network services. The Commission did not consider it necessary to include the words "when possible" as DNSPs could not continue to provide network services when it is not possible to do so.[144]

Interaction between our final rule and incentive schemes

Consistent with the proposed guideline provision in the rule change request,[145] the final rule requires the AER's guidelines to explain how resilience expenditure will be addressed in incentive schemes[146] established by the AER under Chapter 6 of the NER.

The Commission also recommends that the AER consider whether to develop an incentive mechanism for electricity distribution network resilience. Stakeholder views were mixed on whether the AER should develop an incentive mechanism for resilience, as outlined below.

- ECA and Erne Energy proposed an incentive for DNSP rapid recovery (responsiveness) from severe events.[147] Essential Energy supported an explicit link between resilience expenditure and incentive schemes so that DNSPs are penalised or rewarded for outcomes related to resilience expenditure.[148] ECA proposed that the AER guidelines adopt a "Use it or lose it" framework so that unspent resilience expenditure is returned to customers.[149]
- AusNet, ENA, Energex and Ergon Energy and TasNetworks did not support a resilience incentive mechanism if metrics are not within the DNSP's control[150]
- The AER noted that, in developing the guidelines, the AER will consult widely with stakeholders on the application of incentive schemes for resilience expenditure, in particular how a potential network resilience incentive scheme may interact with existing incentives schemes (e.g. STPIS, CESS and EBSS). The AER's focus is to provide that DNSPs are incentivised to deliver efficient outcomes that are aligned with consumers' preferences.[151]

The AER may consider whether to develop an incentive mechanism for resilience, for example related to the effectiveness of DNSP communication with consumers and other parties before,

141 Energex and Ergon Energy, submission on draft determination, p. 5.
142 Marsden Jacob and Amokabel Australia, submission on draft determination, p. 7.
143 Final rule, clause 6.4.6(a)(1)(i).
144 We note that resilience expenditure is intended to expand the time or circumstances when DNSPs can continue to provide services.
145 Rule change request, pp. 10-11.
146 Final rule, clause 6.4.6(a)(4).
147 Submissions on consultation paper: ECA, p. 3 and Erne Energy, p. 6.
148 Essential Energy, submission on consultation paper, p. 3.
149 ECA, submission on draft determination, p. 2.
150 Submissions on draft determination: AusNet, p. 1; ENA, p. 2; Energex and Ergon Energy, p. 5; and TasNetworks, p. 2.
151 AER, submission on draft determination, p. 2.

during and after a severe weather event. The NER provides flexibility for the AER to change the STPIS to include additional metrics, if appropriate.[152] For example, the Network Capability Component was introduced to the STPIS in December 2012 to incentivise TNSPs to review the capability of the transmission network and identify low-cost network capability improvements that provide the greatest benefit to customers.[153]

TasNetworks noted that some DNSPs already have a quality of communication metric during unplanned outages in their Customer Service Incentive Scheme (CSIS), which may incentivise communication-based resilience outcomes.[154] We note that the CSIS may provide incentives, for the DNSPs that apply the CSIS,[155] to effectively communicate with consumers and other parties before, during and after a severe weather event, however this is a matter for the AER to consider as the AER applies incentive mechanisms.

SA Power Networks suggested that the AEMC should clarify whether there are any impediments to options on incentives, including via the small-scale incentive scheme.[156] We note that, given the AER has scope under the NER to develop and amend incentive schemes, there are no NER impediments to options on incentives, including in relation to the small-scale incentive scheme.

Stakeholder views and Commission responses on other matters related to the Guidelines

- **Define preparedness:** Essential Energy suggested that the AER's guidelines should define 'preparedness' to include upfront resilience expenditure, such as for asset hardening and vegetation management, to clarify the types of resilience expenditure that may be allowed.[157] The Commission notes that the resilience expenditure factors in the final rule refer to 'reducing the risk', so it is clear that DNSPs can propose upfront resilience expenditure for risk reduction, which the AER would assess. We do not consider it necessary to define preparedness in the NER, although the AER may decide to define or comment on preparedness in the guidelines.
- **Quality of engagement:** Erne Energy suggested that the guidelines set out the quality of the engagement DNSPs need to undertake in relation to resilience expenditure proposals.[158] The Commission considers that existing stakeholder consultation processes for distribution determinations should be used for resilience expenditure proposals, as explained in section 3.2.6. The AER may also provide guidance on this in its guidelines.
- **Example of upfront risk reduction:** AusNet suggested amending the draft rule to require the guidelines to include an additional example of resilience expenditure for upfront risk reduction.[159] The Commission considered that upfront resilience expenditure for risk reduction was already captured in the draft rule through clause 6.4.6(a)(1)(i) which referred to "continue to adequately provide network services despite severe weather events"[160], so an additional example of resilience expenditure for upfront risk reduction was not required.
- **Weights and probabilities for High Impact Low Probability (HILP) events:** ENA and SA Power Networks proposed to require the guideline outline how the AER would treat and weigh the probability of events and consequences of HILP events.[161] The Commission notes that the

152 NER clause 6.6.2(c).
153 ElectraNet, *Network Capability Incentive Parameter Action Plan*, Attachment 10, 31 January 2022, p. 4.
154 TasNetworks, submission on draft determination, pp. 2-3.
155 Currently the CSIS is applied by some DNSPs (e.g. TasNetworks) and is not applied by other DNSPs (e.g. Energex and Ergon Energy).
156 SA Power Networks, submission on draft determination, p. 3.
157 Essential Energy, submission on draft determination, p. 3.
158 Erne Energy, submission on draft determination, p. 2.
159 AusNet, submission on draft determination, p. 1.
160 In the final rule, clause 6.4.6(a)(1)(i) was amended to include the words "and safely", as explained above in this section 3.3.2.
161 Submissions on draft determination: ENA, p. 2 and SA Power Networks, p. 2.

AER intends to undertake further work and consultation on the VNR as part of the AER's longer term VCR/HILP work program.[162] Given that the AER intends to further consider HILP events, the Commission does not consider it appropriate to require that guidelines specify weights and probabilities for HILP events.

- **Role of consumer energy resources (CER) in resilience:** ECA suggests that the guidelines account for the role of CER in supporting resilience, as devices such as solar PV and batteries can be used to generate and store electricity during power outages caused by severe weather events.[163] The Commission is of the view that CER may support resilience, for example by helping to support consumers' essential needs while the DNSP works to restore full power. While the AER may describe the role of CER in guidelines the Commission does not consider it necessary to require this in the NER.

3.4 Our final rule includes new annual planning and reporting requirements for DNSPs on resilience

Box 7: Final determination - New distribution annual planning and reporting requirements for resilience

Our final rule includes new annual planning and reporting requirements for DNSPs in relation to resilience, as part of existing requirements to conduct distribution annual planning reviews and prepare DAPRs.

Changes from draft to final rule:

- None.

The current NER set out annual planning and reporting requirements for DNSPs in Chapter 5.[164]

Our final rule includes the following new annual planning requirements for DNSPs as part of the distribution annual planning review:

- identifying risks of power outages (for customers on the DNSP's network) caused by severe weather events, taking into account the impacts of climate change[165] This supports DNSPs and consumers by clarifying resilience planning requirements, which DNSPs will need to report on in the DAPR, as explained below.
- engaging with non-network providers and considering non-network options and SAPS options for addressing these risks.[166] This is consistent with current NER requirements for DNSPs to engage with non-network providers and consider non-network options and SAPS options for addressing system limitations.[167]

Our final rule includes new annual reporting requirements for DNSPs, which require the following information to be included in the DAPR:

162 AER, *Value of Network Resilience 2024 - Final decision*, September 2024, p. 2.
163 ECA, submission on draft determination, p. 4.
164 NER rule 5.13 and Schedule 5.8.
165 Final rule, clause 5.13.1(d)(7).
166 Final rule, clause 5.13.1(f).
167 NER clause 5.13.1(f).

- if any severe weather event occurred in the preceding year, information on the performance of the DNSP and outcomes for consumers, as specified in the guidelines.[168] This reporting will improve transparency and accountability of DNSPs' performance and outcomes for consumers in severe weather events each year.
- the amount and nature of the DNSP's resilience expenditure which occurred in the preceding year (if any), and the amount and nature of planned resilience expenditure in the forward planning period.[169] Providing information on the amount spent, as well as the types of projects and programs it was spent on, will improve transparency and accountability of DNSPs' resilience expenditure.
- a description of the risks of power outages caused by severe weather events identified in the distribution annual planning review (see above), in terms of their impact on the DNSP's network, which will improve transparency[170]
- for DNSPs in jurisdictions that have opted in to the SAPS framework, information on the risks of power outages caused by severe weather events (as identified in the distribution annual planning review), for which a potential solution is a regulated SAPS.[171] This is consistent with the current NER provision for DNSPs to provide information on system limitations in the forward planning period for which a potential solution is a regulated SAPS;[172]
- an explanation of how the DNSP takes into account the risks of power outages caused by severe weather events (as identified in the distribution annual planning review) when developing and implementing its asset management and investment strategy, to improve transparency and accountability.[173]

Our final rule is consistent with the rule change request which proposed that the AER must set out reporting requirements for DNSPs for resilience in guidelines.[174] Our final rule also sets out additional annual planning and reporting requirements for DNSPs in the DAPR. Given that DNSPs already need to report annually on similar matters in the DAPR, the Commission considers the DAPR is an appropriate place for annual resilience reporting.

Stakeholders had mixed views on whether to establish additional resilience reporting requirements for DNSPs, as outlined below.

- The AER, AGL, Ausgrid, ECA, Essential Energy, JEC, Nexa Advisory and SMA Australia Pty Ltd. supported new annual planning and reporting requirements for resilience in the DAPR, with some of these stakeholders also suggesting that some elements of resilience reporting should be via Annual Information Orders (AIOs) as explained below.[175]
  - ANU, ECA and Erne Energy supported annual resilience risk assessments, which could be published in the DAPR.[176]

168 Final rule, clause S5.8(j1). While the majority of the DAPR is forward-looking, there are existing provisions which require reporting on the preceding year, eg NER clauses S5.8(j)(3) and (4), similarly to this new provision.

169 Final rule, clause S5.8(m1).

170 Final rule, clause S5.8(b)(5).

171 Final rule, clause S5.8(d2).

172 NER clause S5.8(d2).

173 Final rule, clause S5.8(k)(1B).

174 Rule change request, p. 11.

175 Submissions on draft determination: AER, p. 1; AGL, p. 1; Ausgrid, p. 4; ECA, p. 7; Essential Energy, p. 4; JEC, p. 5; Nexa Advisory, p. 2; and SMA Australia Pty. Ltd., p. 1.

176 Submissions on consultation paper: ECA, p. 4 and Erne Energy, p. 4.

- ENA, Endeavour Energy, Energex and Ergon Energy, a private individual and SA Power Networks did not support new annual planning and reporting requirements for resilience for the reasons outlined further below.[177]

Stakeholder views and Commission responses on other matters related to new annual planning and reporting requirements for DNSPs on resilience

- **Purpose of resilience reporting in the DAPR:** ENA, Energex, Ergon Energy and SA Power Networks considered that the purpose of new resilience reporting in the DAPR was not clear.[178] The Commission notes that the purpose of new resilience reporting in the DAPR is to improve accountability and transparency by requiring each DNSP to summarise their resilience activities, expenditure and performance in a single report that is easily accessible by interested stakeholders (e.g. consumers, stakeholders and jurisdictions). JEC supported resilience reporting in the DAPR as it will improve accessibility for stakeholders.[179]
- **Interaction between resilience reporting through existing instruments and new requirements in the DAPR**: ENA, Endeavour Energy, Energex, Ergon Energy, SA Power Networks and TasNetworks considered that existing reporting covers resilience, so additional reporting requirements are not needed or could instead be included through the AER's AIOs, which replace Regulatory Information Notices (RINs) from 2025.[180] ENA, Energex, Ergon Energy and SA Power Networks also considered that new DAPR reporting may duplicate existing Australian or jurisdictional reporting[181] and create an unnecessary regulatory burden.[182] The Commission notes that:
  - while some DNSPs are subject to similar jurisdictional reporting requirements for resilience, we seek to complement this by including minimum resilience reporting requirements for all DNSPs. We consider that the benefits of improved accountability and transparency outweigh the regulatory burden.
  - the AER has the ability to use AIOs to request various data and information over a set number of reporting years.[183] It is more preferable to include resilience reporting in the DAPR as this provides certainty through permanent annual requirements for DNSPs in the NER. The AER may address any duplication in resilience reporting requirements between the DAPR and AIOs.
- **Confidentiality and sensitivity around new DAPR resilience requirements**: SA Power Networks was concerned that new resilience planning and reporting requirements in the DAPR may require DNSPs to report on potential weak points in network areas and assets arising from severe weather events, such that DNSPs are at a material risk of contravening the *Security of Critical Infrastructure Act 2018* (Cth) (SOCI Act) or confidentiality requirements.[184] The Commission does not consider this to be an issue for the reasons outlined below.

177 Submission on draft determination: ENA, p. 2; Endeavour Energy, pp. 3-4, Energex and Ergon Energy, p. 2; Lynette LaBlack (private individual), p. 1; and SA Power Networks, p. 1.

178 Submissions on draft determination: ENA, p. 1; Energex and Ergon Energy, pp. 2-3; and SA Power Networks, p. 3.

179 JEC, submission on draft determination, p. 6.

180 Submissions on consultation paper: ENA, p.2, Energex and Ergon Energy, p. 1. and TasNetworks, p. 2. Submission on draft determination: ENA, p. 2; Endeavour Energy, pp. 3-4 and SA Power Networks, p. 3.

181 For example, Energy Queensland noted that is must annually update and report on its Natural Hazards Strategy and SA Power Networks noted that DNSPs are required to report on climate risk and mitigation strategies as part of their Environmental, Social and Governance reporting via the Australian Accounting Standards Board (AASB) requirements. Submission on draft determination: Energex and Ergon Energy, p. 3 and SA Power Networks, p. 4.

182 ENA, submission on draft determination, p.2.

183 AER Decision, *Annual Information Orders – Electricity,* April 2024, p. 1.

184 SA Power Networks, submission on draft determination, p. 4.

  - The expected form of new resilience reporting in the DAPR is a high level summary of the DNSP's resilience activities, expenditure and performance and would not include granular information which may be confidential or sensitive in relation to the SOCI Act.
  - DNSPs have existing confidentiality provisions under the NER and other instruments such as the SOCI Act, which will continue to apply:
    - DNSPs are already subject to confidentiality obligations under clause 8.6.1 of the NER, a civil penalty provision, which requires DNSPs to use reasonable endeavours to keep confidential information confidential and not disclose it to any person (unless required by law).
    - Under the SOCI Act there are a range of obligations DNSPs must comply with regarding sensitive information under the broader protected information regime.
  - In developing the guidelines, the AER will need to undertake consultation on the requirements relating to DNSPs' performance and outcomes for consumers in any severe weather events that occurred in the preceding year, and this process will allow any concerns regarding reporting specifics to be raised and considered.
- **Standard templates for resilient reporting in the DAPR:** EUAA suggested that the AER develops standard templates for resilience reporting in the DAPR.[185] We note that the current arrangements provide DNSPs with discretion regarding how they structure and report information in the DAPR. If the AER considers there would be benefit in DNSPs reporting consistently on resilience in the DAPR, the AER could develop standard templates for resilience reporting in the DAPR.
- **Time period for resilience reporting in the DAPR:** Energex and Ergon Energy considered that there may not enough time to confirm network and consumer outcomes from severe weather events that occurred in the preceding financial year and publication of the DAPR in December each year.[186] We consider that there is sufficient time between 30 June and December each year (around 6 months) to provide the best available information on network and consumer outcomes from any severe weather events that occurred in the preceding financial year. If this information is subsequently revised, the updated information may be published in the DAPR in the subsequent year.
- **Interaction between resilience reporting in DAPR and potential Victorian Resilience Plans**: the AER noted potential new reporting requirements on Victorian DNSPs to develop Victorian Resilience Plans. The AER noted that it intends to consult with the affected DNSPs and other relevant parties to address any potential interactions between reporting requirements in the DAPR and potential new Victorian Resilience Plans.[187]
- **Rule change proposal on Integrated Distribution System Planning:** Energex and Ergon Energy suggested that the Commission should not include new planning and reporting requirements for resilience in the DAPR because the ECA has proposed a rule change to replace the DAPR with a biennial Integrated Distribution System Plan.[188] The Commission considers that new planning and reporting requirements for resilience should be added to the DAPR, as set out in the final rule, as these requirements will improve accountability and transparency of DNSPs as explained above. The Commission will separately consider the Integrated Distribution System Planning rule change request.[189]

185 EUAA, submission on draft determination, p. 7.
186 Energex and Ergon Energy, submission on draft determination, pp. 3-4.
187 AER, submission on draft determination, p. 2.
188 Energex and Ergon Energy, submission on draft determination, p. 4.
189 ECA, *Integrated Distribution System Planning rule change request*, 22 January 2025. Available on the AEMC's website here:

3.5 Implementation and transitional arrangements

Box 8: Final determination - Implementation and transitional arrangements

Under the final rule, the provisions on resilience expenditure factors commence on 1 October 2025, the AER's guideline will be published by 1 December 2026, and the first DAPRs to include the new resilience reporting requirements will be published in 2028.

Changes from draft to final rule:

- None.

3.5.1 The final rule has staggered commencement dates for ease of compliance

The final rule has a commencement date of 2 October 2025 for the resilience expenditure factors.[190] This means that from 2 October 2025 the resilience expenditure factors and definition of resilience expenditure:

- may be taken into account in the Victorian DNSPs' revised regulatory proposals for the 2026-31 regulatory control period, which are due in December 2025;[191] and
- must be taken into account in the AER's final distribution determinations for the Victorian DNSPs for the 2026-31 regulatory control period, which are due in April 2026.[192]

The AER, ENA, Marsden Jacob and Amokabel Australia, and SMA Australia Pty Ltd. supported the above commencement dates as it would allow the resilience expenditure factors and definition of resilience expenditure to be taken into account in Victorian distribution determination processes for the 2026-31 regulatory control period.[193]

The guidelines will not be developed in time for the Victorian DNSPs' revised regulatory proposals and the AER's final distribution determinations for the 2026-31 regulatory control period, as explained further in section 3.5.2. The AER's existing guidance note may be applied in the Victorian DNSPs' revised regulatory proposals and the AER's final distribution determination for the 2026-31 regulatory control period, as per the current arrangements.

The final rule has a commencement date of 1 July 2027 for the resilience planning and reporting requirements, with the first report to include these new requirements due in 2028, for the reasons explained in section 3.5.3.[194]

Figure 3.1 below illustrates the timeline for implementing the final rule.

https://www.aemc.gov.au/sites/default/files/2025-02/New%20rule%20change%20proposal%20-%20Energy%20Consumers%20Australia%20-%2020250122.pdf

190 2 October 2025 is the commencement date for schedule 2 of the Amending Rule.

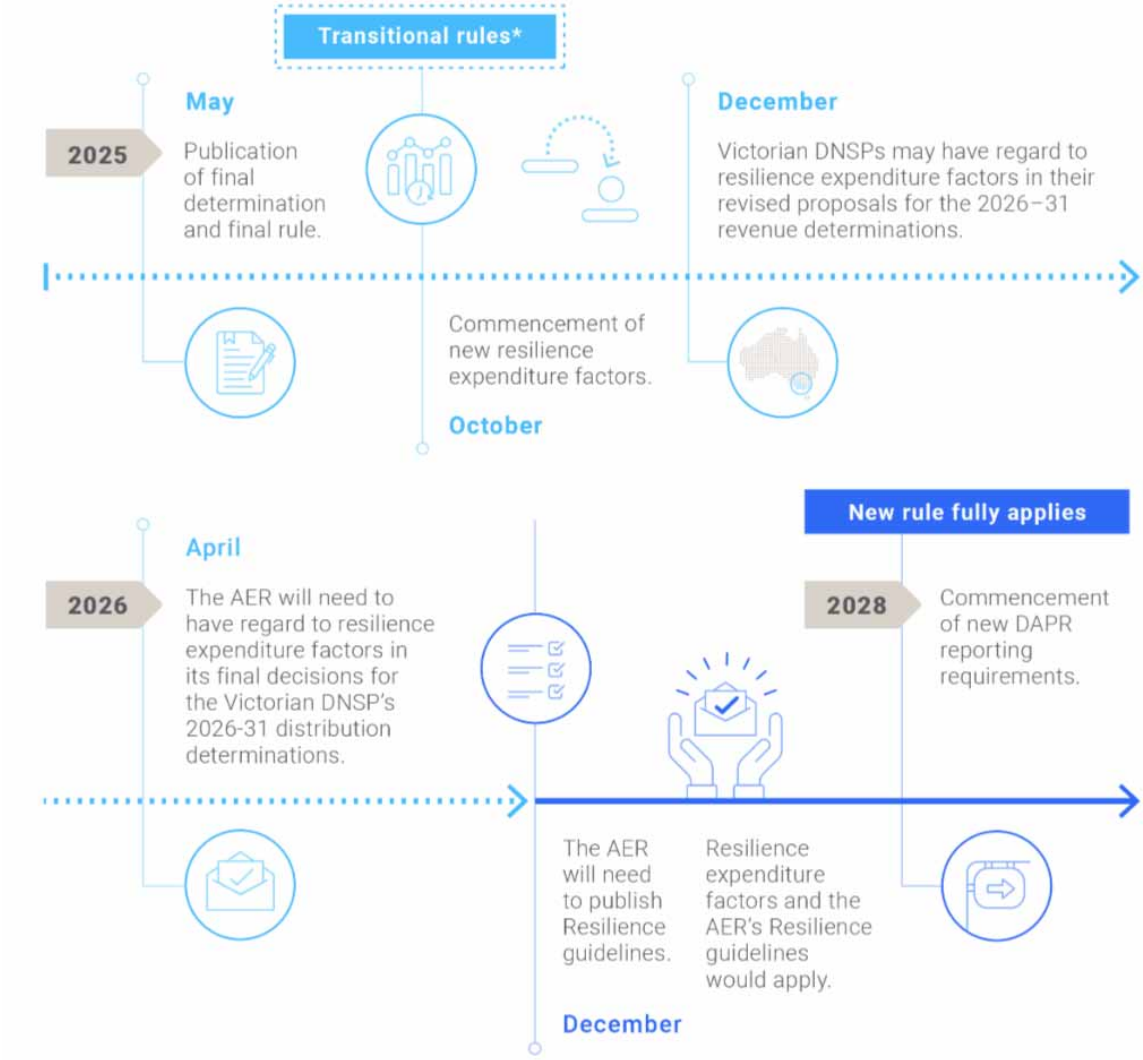
191 Final rule, clause 11.185.3(a).

192 Final rule, clause 11.185.3(c)

193 Submissions on draft determination: AER, p. 2; ENA, p. 2; Marsden Jacob and Amokabel Australia, p. 7; and SMA Australia Pty. Ltd., p. 1.

194 Final rule, clause 11.185.4.

Figure 3.1: Timeline to implement the final rule, including transitional arrangements



Source: AEMC

3.5.2 Transitional rules require the AER to develop guidelines by December 2026

Transitional rules require the AER to develop guidelines by 1 December 2026 in accordance with the Rules consultation procedures.[195] This means that the AER:

- must carry out two rounds of consultation in developing the guidelines; and
- may carry out one round of consultation in subsequently amending the guidelines, if the amendments are suitable for the expedited or minor rules consultation procedures.[196]

The Commission's final decision is to provide more than 18 months after the final determination for this rule (May 2025) for the AER to develop the guidelines (December 2026). This will allow the AER to carry out two rounds of consultation as required under the standard Rules consultation procedures and incorporate any lessons learnt on resilience expenditure from:

195 Final rule, clauses 11.185.2 and 6.4.6.
196 NER clauses 8.9.3 and 8.9.4.

- the first application of resilience expenditure factors in the latter stages of the Victorian distribution determinations; and
- the AER's further work on the VNR.

The rule change request noted that the AER would need to undertake a process to develop the guidelines but did not propose how this should occur.[197] EUAA supported the development of AER guidelines by the end of 2025.[198] Energex and Ergon Energy supported a two year period for the AER to develop the guideline, while the AER is considering whether to establish a long-term VNR.[199]

More information on the development of AER guidelines is set out in section 3.3.1.

3.5.3 The 2028 DAPRs will be the first DAPRs to include resilience reporting under the final rule

The transitional rules require that the first DAPRs to include the new resilience planning and reporting requirements for DNSPs will be the DAPRs published in 2028.[200] The Commission considered that this timing will be appropriate due to the steps required to implement the new reporting requirements, as explained below.

- The final rule includes new requirements for DNSPs to set out in the DAPR information on the performance of the DNSP and outcomes for consumers in any severe weather event in the preceding year, as specified in the guidelines.[201]
- The final rule requires the AER to publish the guidelines, including details on the above information, by 1 December 2026.[202]
- This means that the financial year July 2027-June 2028 will be the first full reporting year for which DNSPs will have the guidelines available so they could collect the required information on the performance of the DNSP and outcomes for consumers in any severe weather event.
- Therefore the 2028 DAPRs will be the first DAPRs to include the new required information in respect of the preceding year (July 2027 to June 2028). The new reporting rules will be included in the NER from 1 July 2027, for DNSP visibility when commencing the new reporting year, but the 2027 DAPRs do not need to comply with the new reporting rules.[203]

197 Rule change request, p. 13.
198 EUAA, submission on consultation paper, p. 13.
199 Energex and Ergon Energy, submission on consultation paper, p.9.
200 Final rule, clause 11.185.4.
201 Final rule, clause S5.8(j1).
202 Final rule, clause 11.185.2.
203 Final rule, clause 11.185.4.

A Rule making process and background to the rule request

A standard rule change request includes the following stages:

- a proponent submits a rule change request
- the Commission initiates the rule change process by publishing a consultation paper and seeking stakeholder feedback
- stakeholders lodge submissions on the consultation paper and engage through other channels to make their views known to the AEMC project team
- the Commission publishes a draft determination and draft rule
  - stakeholders lodge submissions on the draft determination and engage through other channels to make their views known to the AEMC project team
- the Commission publishes a final determination and final rule (this stage).

You can find more information on the rule change process on our website.[204]

This appendix outlines the reason for this rule change request, background to the request, and the rule-making process to date.

A.1 The Victorian Minister proposed changes to the rules to improve how DNSPs and the AER account for distribution network resilience

The proponent submitted a rule change request on 23 August 2024 seeking to improve how distribution network resilience is accounted for in the economic regulatory framework. This is in the context of the increasing risk of severe weather events due to climate change.[205]

The rule change request raised the following issues with the current arrangements:

- the lack of a formal framework for distribution network resilience creates regulatory uncertainty for DNSPs and the AER around how to efficiently spend on network resilience for prolonged power outages
- regulatory arrangements place insufficient focus on consumer outcomes related to prolonged power outages
- climate change and other hazards are expected to increase the likelihood of prolonged power outages.

The proponent considered that these issues impact DNSPs' ability to prepare for, manage during, and recover from severe events, which results in consumers bearing the costs and risks of prolonged power outages.

The proposal sought to address the issues raised by clarifying how distribution network resilience is accounted for in the economic regulatory framework by:

- including resilience in the NER in the form of DNSP expenditure factors for capital and operating expenditure, and
- requiring the AER to publish formal guidelines on how it will assess DNSPs' proposals for expenditure on distribution network resilience.

204 See our website for more information on the rule change process: https://www.aemc.gov.au/our-work/changing-energy-rules.

205 The Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources, *Rule change request to account for resilience in the National Electricity Rules capital and operating expenditure factors (Rule change request)*, 23 August 2024.

A.2 The rule change is part of a larger program of work to improve electricity distribution network resilience

The rule change is part of a larger program of work to improve electricity distribution network resilience, including the work outlined below:

- The Victorian Government established two expert public reviews into electricity network resilience following widespread prolonged power outages in Victoria.
- The AER recently established a VNR for prolonged power outages[206]

A.2.1 The Victorian Government established two expert public reviews into electricity network resilience related to prolonged power outages

The Victorian Government established two expert public reviews into electricity distribution network resilience for prolonged power outages in the last three years. These were the:

- 2022 electricity distribution network resilience review[207]
- Independent review of transmission and distribution businesses' operational response to the February 2024 storm and power outage event in Victoria (2024 network outage review)[208]

The 2022 electricity distribution network resilience review recommended a rule change

The Victorian Government initiated this review in response to severe weather events in Victoria in 2021 that resulted in widespread prolonged power outages. Following severe storms in:[209]

- June 2021 - 68,000 customers were without electricity after 72 hours, and 9,000 customers were still without electricity after seven days.
- October 2021 - 23,983 customers were without electricity after 72 hours, and around 2,500 customers were still without electricity after seven days.

The Expert Panel published and provided to the Victorian Minister for Energy, Environment and Climate Change its final recommendations for the Electricity Distribution Network Resilience Review on 6 May 2022. The Expert Panel made eight recommendations for reforms to reduce the likelihood and impact of prolonged power outages.[210] The Victorian Government supported the vast majority of the Expert Panel's recommendations to boost network and community resilience.[211]

The proponent's rule change request proposed to include resilience in the NER, however in a different way from that recommended by the Expert Panel. The Expert Panel recommended including resilience through the capital expenditure objectives in clause 6.5.7 of the NER,[212] while in this rule change request the Victorian Government proposed to include resilience through the capital and operating expenditure factors in clauses 6.5.6(e) and 6.5.7(e) of the NER.[213]

206 AER, *Value of Network Resilience 2024 - Final decision*, 30 September 2024.

207 Expert Panel, *Electricity Distribution Network Resilience Review - Final recommendations report*, May 2022. https://www.energy.vic.gov.au/about-energy/legislation/regulatory-reviews/electricity-distribution-network-resilience-review

208 Network outage review expert panel, *Independent review of transmission and distribution businesses operational response - February 2024 storm and power outage event - Final report*, September 2024.

209 Expert Panel, *Electricity Distribution Network Resilience Review - Final recommendations report*, May 2022, p. vi.

210 Expert Panel, *Electricity Distribution Network Resilience Review - Final recommendations report*, May 2022, p. 9.

211 Victorian Government, *Response to Electricity Distribution Resilience Review*, September 2023, pp. 6-8.

212 2022 electricity distribution network resilience review, *Expert Panel Final recommendations report*, p. 14.

213 Rule change request, p. 9.

The 2024 network outage review made 19 recommendations to improve networks' responses

The Victorian Minister for Energy and Resources commissioned an independent expert panel to carry out the 2024 network outage review in response to severe storms on 13 February 2024.[214]

The 13 February 2024 storm caused significant damage to Victoria's electricity transmission and distribution network, including impacts on around 12,000 kilometres of electricity distribution lines. This severe weather event resulted in around 30,000 customers losing electricity supply for more than 72 hours and more than 3,000 customers losing electricity supply for more than one week.[215]

The Expert Panel concluded that the response of NSPs needs to reflect the new climate reality with cost-effective strategies built-in to deliver a core essential service to the community and provide a more resilient system.[216]

The Expert Panel made 19 recommendations and 12 observations for how NSPs could improve their operational response to prolonged power outages, including (but not limited to):

- improving planning, coordination and accountability by clarifying roles and responsibilities in relation to emergency management
- recommending a new financial support mechanism, the Extended Loss of Supply Support payment, to support customers impacted by outages and put the onus on DNSPs to reduce restoration times for prolonged power outages
- improve communication with customers by strengthening customer contact processes
- provide backup temporary generation within communities to support critical services and support a more reactive presence on the ground.

On 20 December 2024, the Victorian Minister for Energy and Resource released the Victorian Government's response to the Network Outage review, supporting all 19 recommendations in full, in part, or in principle.[217]

A.2.2 The AER recently established a VNR for prolonged power outages

Our final rule clarifies how distribution network resilience is accounted for in the economic regulatory framework and complements the AER's recent reform to establish a VNR for outages longer than 12 hours in duration.

There is also a VCR which will continue to apply for outages shorter than 12 hours in duration (noting that, under the final rule, there is no restriction on resilience expenditure based on the length of the outage). The VCR and VNR are explained below.

The VCR will continue to be an input into the economic regulatory framework for 'standard' outages less than 12 hours

The AER is required to develop and publish values of customer reliability at least every five years under rule 8.12(g) of the NER. In the AER's final determination for the VCR published on 30 August

214 Network Outage Review Expert Panel, *Independent review of transmission and distribution businesses operational response - February 2024 storm and power outage event - Final report*, September 2024, p. 4. https://www.energy.vic.gov.au/about-energy/safety/network-outage-review.

215 Subsequently, the Victorian and Australian Governments introduced a prolonged power outage payment to support the more than 3,000 consumers who were without electricity supply for at least one week.

216 2024 network outage review, p. 4.

217 Victorian Government, *Response to the Network outage review*, 20 December 2024. Webpage viewed 27 January 2025. https://www.energy.vic.gov.au/about-energy/safety/network-outage-review.

2024, the AER decided to apply a VCR for standard outages only, which the AER defined as unplanned outages of up to 12 hours in duration.[218]

The VCR estimates the value various types of customers place on reliable electricity supply under different conditions, which the AER expresses in dollars per kilowatt hour ($/kWh) of unserved energy.[219] The VCR plays an important role in providing that customers pay no more than necessary for reliable energy, helping NSPs identify the right level of investment to deliver reliable energy services to customers.[220] The AER is required to review the VCR methodology at least once every five years.[221]

The VNR is a new input into the economic regulatory framework for outages longer than 12 hours in duration

The Energy and Climate Change Ministerial Council (ECMC) asked the AER to extend its most recent review of the VCR to establish a VNR for prolonged power outages on 1 March 2024.[222]

The AER completed the Value of Network Resilience 2024 review and published a final decision on 30 September 2024. The AER noted that the purpose of this review was to establish an initial VNR that:[223]

- reflects the benefit network customers receive from a resilient network, in terms of reducing the probability or duration of an outage from an extreme hazard event
- supports network investments to improve a network's ability to:
  - withstand events: for example hardening investments (e.g. composite poles, undergrounding), design standards and SAPS
  - recover from events: for example mobile substations and generators, contingency standby crews, network automation and communications with customers before and during outages.

Table 1.1 below sets out the AER's final decision to apply a VNR that is a simple tiered multiple of the VCR, and that differs between residential and business customers.

Table A.1: Values of network resilience for residential and business consumers

Residential consumers	Business consumers
Standard VCR applying for the first 12 hours of a prolonged outage followed by: • a multiple of 2x the standard VCR applying for the period of 12-24 hours • a multiple of 1.5x the standard VCR applying for the duration of the outage that extends beyond 24 hours, until the upper bound is reached. The upper bound:	Standard VCR applying for the first 12 hours of a prolonged outage followed by: • a multiple of 1.5x the standard VCR applying for the period of 12-24 hours • a multiple of 1x the standard VCR applying for the period of 24-72 hours • a multiple of 0.5x the standard VCR applying for the duration of the outage that extends beyond 72 hours.

218 AER, *Values of customer reliability methodology - Final determination*, 30 August 2024, p. 1.

219 AER, *Values of customer reliability methodology - Final determination*, 30 August 2024, p. 1.

220 AER, *Values of customer reliability methodology - Final determination*, 30 August 2024, p. 1.

221 Rule 8.12 of the NER.

222 The ECMC described this as a value of consumer resilience in the meeting communique published on 1 March 2024, p.1: https://www.energy.gov.au/energy-and-climate-change-ministerial-council/meetings-and-communiques. The AER has subsequently described it as a Value of Network Resilience (VNR).

223 AER, *Value of network resilience 2024 - Final decision, 30 September 2024*, p. 1.

Residential consumers	Business consumers
• is $3,500 per residential customer • for embedded networks is based on the number of residential customers a DNSP estimates are served by that embedded network.	The VNR does not include an upper bound for business customers. The AER instead applied the above multiples of VCR which the AER considers reflect that business customers may also take steps to mitigate the impacts of a prolonged power outage.

Source: AER, *Value of Network Resilience 2024 - Final decision*, 30 September 2024

The AER noted that:

- the AER took a pragmatic approach to develop the initial VNR within the required timeframe in 2024 and it will work on a longer-term VNR methodology in 2025[224]
- the AER expects the VNR to complement the AER's existing network resilience guidance note (AER guidance note)[225] and assist DNSPs in assessing options to invest in resilience solutions for parts of their network identified as subject to increased risk of extreme hazard events.

Given that the VNR is now in place, it can be applied by the Victorian, South Australian and Queensland DNSPs in their upcoming revenue determination processes.

A.3 The rule change process to date

On 3 October 2024, the Commission published a notice advising of the initiation of the rule making process and consultation on the proponent's rule change request.[226]

A consultation paper identifying specific issues for consultation was also published.[227] Submissions closed on 7 November 2024.

The Commission received 18 submissions as part of the first round of consultation. The AER made a further supplementary submission on 13 January 2025.[228]

The Commission received 19 submissions in the second round of consultation.

The Commission considered all issues raised by stakeholders in submissions. Issues raised in submissions are discussed and responded to throughout this final rule determination. A summary

224 AER, *Value of Network Resilience 2024 - Final decision*, 30 September 2024, p. 2.

225 AER, *Network resilience - A note on key issues*, April 2022. https://www.aer.gov.au/system/files/Network%20resilience%20-%20note%20on%20key%20issues.pdf.

226 This notice was published under section 95 of the NEL.

227 AEMC, *Including distribution network resilience in the national electricity rules - Consultation paper*, 3 October 2024: https://www.aemc.gov.au/sites/default/files/2024-10/consultation_paper.pdf.

228 AER, supplementary submission on consultation paper, 13 January 2025.

B Legal requirements to make a rule

This appendix sets out the relevant legal requirements under the NEL for the Commission to make a final rule determination.

B.1 Final rule determination and final rule

In accordance with sections 102, 102A and 103 of the NEL, the Commission has made this final rule determination for a more preferable final rule in relation to the rule proposed by the proponent.

The Commission's reasons for making this final rule determination are set out in chapter 2.

A copy of the more preferable final rule is attached to and published with this final determination. Its key features are described in chapter 3.

B.2 Power to make the rule

The Commission is satisfied that the more preferable final rule falls within the subject matter about which the Commission may make rules.

The more preferable final rule falls within section 34 of the NEL as it relates to regulating the provision of connection services to retail customers under section 34(1)(a)(iv) and to regulating the activities of persons involved in the operation of the national electricity system under section 34(1)(a)(iii) of the NEL.

B.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NEL to make the final rule
- the rule change request
- submissions received during first round and second round consultation
- the Commission's analysis as to the ways in which the final rule will or is likely to contribute to the achievement of the NEO
- the application of the final rule to the Northern Territory
- the revenue and pricing principles.[229]

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[230]

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of AEMO's declared network functions.[231] The more preferable final electricity rule is compatible with AEMO's declared network functions because it does not change those functions in any material respect.

229 See section 2.2.

230 Under s. 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for energy.

231 Section 91(8) of the NEL.

B.4 Making electricity rules in the Northern Territory

The NER, as amended from time to time, apply in the Northern Territory, subject to modifications set out in regulations made under the Northern Territory legislation adopting the NEL.[232] Under those regulations, only certain parts of the NER have been adopted in the Northern Territory.

As the more preferable final rule relates to parts of the NER that apply in the Northern Territory, the Commission is required to assess Northern Territory application issues, described below.

Test for scope of "national electricity system" in the NEO

Under the NT Act, the Commission must regard the reference in the NEO to the "national electricity system" as a reference to whichever of the following the Commission considers appropriate in the circumstances having regard to the nature, scope or operation of the proposed rule:[233]

1. the national electricity system
2. one or more, or all, of the local electricity systems[234]
3. all of the electricity systems referred to above.

Test for differential rule

Under the NT Act, the Commission may make a differential rule if it is satisfied that, having regard to any relevant MCE statement of policy principles, a differential rule will, or is likely to, better contribute to the achievement of the NEO than a uniform rule.[235] A differential rule is a rule that:

- varies in its term as between:
  - the national electricity systems, and
  - one or more, or all, of the local electricity systems, or
- does not have effect with respect to one or more of those systems

but is not a jurisdictional derogation, participant derogation or rule that has effect with respect to an adoptive jurisdiction for the purpose of s. 91(8) of the NEL.

A uniform rule is a rule that does not vary in its terms between the national electricity system and one or more, or all, of the local electricity systems, and has effect with respect to all of those systems.[236]

The Commission's final determination in relation to the meaning of the "national electricity system" and whether to make a uniform or differential rule are set out in chapter 2.

B.5 Civil penalty provisions and conduct provisions

The Commission cannot create new civil penalty provisions or conduct provisions. However, it may recommend to the Energy Ministers that new or existing provisions of the NER be classified as civil penalty provisions or conduct provisions.

The more preferable final rule does not amend any clauses that are currently classified as civil penalty provisions or conduct provisions under the National Electricity (South Australia) Regulations.

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232 The *National Electricity (Northern Territory) (National Uniform Legislation) Act 2015* (**NT Act**). The regulations under the NT Act are the National Electricity (Northern Territory) (National Uniform Legislation) (Modifications) Regulations 2016.

233 Clause 14A of Schedule 1 to the NT Act, inserting section 88(2a) into the NEL as it applies in the Northern Territory.

234 These are specified Northern Territory systems, listed in schedule 2 of the NT Act.

235 Clause 14B of Schedule 1 to the NT Act, inserting section 88AA into the NEL as it applies in the Northern Territory.

236 Clause 14 of Schedule 1 to the NT Act, inserting the definitions of "differential Rule" and "uniform Rule" into section 87 of the NEL as it applies in the Northern Territory.

The Commission does not propose to recommend to the Energy Ministers that any of the amendments made by the more preferable final rule be classified as civil penalty provisions or conduct provisions.

C Summary of other issues raised in submissions

Table C.1: Summary of other issues raised in submissions on the consultation paper and draft determination

Stakeholder	Issue	Response
Energex and Ergon Energy, p. 1.	**Proposed to include resilience in the NEO.**	As the NEO is in the NEL, it is not possible to amend the NEO in a rule change process - it would require a change to the NEL, agreed by energy ministers.
CEC, p. 2 and Nexa Advisory, p. 3	**Non-network options and community resilience** Resilience should be provided through a mix of network, non-network and SAPS options. Resilience can be delivered by DNSPs and other parties in the community.	We agree that resilience should be provided through a mix of network, non-network and SAPS options. DNSPs must have regard to all of these options under the existing NER expenditure factors* when proposing expenditure. The final rule also requires DNSPs to engage with non-network providers and consider non-network options and SAPS options for addressing risks of outages due to severe weather events (cl 5.13.1(f) and S5.8(d2)).
Ausgrid, p.1	**Remove or relocate references to 'cost pass through'** in the resilience expenditure factors proposed in the rule change request.	Our final rule does not include reference to 'cost pass through' in the resilience expenditure factors. Our final rule relies on the existing economic regulatory framework, which has existing provisions for cost pass through in NER clause 6.6.1.
Ausgrid, pp. 1-2	**Quantifying resilience benefits** The AER should be required to provide further guidance in guidelines as to how DNSPs should quantify each benefit associated with resilience expenditure proposals.	Our final rule includes NER requirements for AER guidelines which balance providing clarity and flexibility for the AER and DNSPs regarding the assessment of resilience expenditure proposals. Our final rule does not require AER guidelines to quantify each benefit associated with resilience expenditure proposals as this would reduce flexibility for the AER and DNSPs. These benefits may differ between DNSPs, for example due to different consumer preferences, different levels of network and consumer vulnerability, and different impacts of climate change risks.
Ausgrid, p. 2	**Proposed to place an obligation on the AER to consider the latest scientific**	Proposals developed by DNSPs will benefit from incorporating the latest scientific modelling and methods, as well as other relevant information, in

Stakeholder	Issue	Response
	modelling and methods in assessing resilience expenditure proposals.	assessing resilience expenditure proposals. However, for the reasons outlined in section 3.3.2, we do not consider it necessary for the NER to include this level of prescription on models and methods to be used in assessing resilience expenditure proposals as it would limit flexibility in the development and application of the guidelines.
Ausgrid, p. 2	**Establish an independent panel** to support the AER in the assessment of climate change and network impact modelling. The AER's guidelines should be required to set out details about the Panel and how its advice will be relied upon for assessing resilience expenditure proposals.	We consider that our final rule strikes a balance between regulatory clarity and flexibility in the assessment of resilience expenditure proposals, as explained in Chapters 1, 2 and 3. Therefore we do not consider requiring the AER to establish an independent panel is necessary to support it in the assessment of climate change and network impact modelling.
ECA, p. 14; Erne Energy, p. 8 and Nexa Advisory, p. 1	**Recent DNSP proposals are primarily for capital expenditure, rather than operational expenditure.** 92% to 100% of the AER's recent approved resilience expenditure was capital expenditure.	Our final determination clarifies that DNSPs are to use cost benefit assessment to compare the efficiency of ex ante versus ex post resilience expenditure, in the usual way. We note that the current NER includes other expenditure factors that DNSPs and the AER must have regard to in relation to resilience expenditure, including:** • the relative prices of operating and capital inputs; and • the substitution possibilities between capital and operating expenditure.
Submissions on consultation paper: ANU, p. 11, Jemena p. 1, EUAA p. 2, ECA p. 3 and Nexa Advisory p. 4 Submissions on draft determination: Ausgrid, p. 3.	**Roles and responsibilities** Resilience is not the sole responsibility of DNSPs. The delineation of DNSPs' roles versus other parties in providing community resilience is not clear and should be clarified in AER guidelines.	We agree that other parties have a role in relation to resilience including local, state and territory governments, community organisations and other essential service providers such as telecommunications providers, which we do not regulate. Our final rule provides clarity on the role of DNSPs in resilience, including: • how resilience expenditure is assessed in the economic regulatory framework using resilience expenditure factors and AER guidelines;

Stakeholder	Issue	Response
	Clarify the roles and responsibilities of DNSPs in delivering network versus community resilience in all jurisdictions.	• requiring the AER to provide examples of the types of resilience expenditure which DNSPs may propose, such as to communicate effectively with consumers and other parties (which include the parties noted above) and promptly provide a level of supply to support consumers' essential needs while the DNSP works to restore full power; and • new annual planning and reporting requirements on DNSPs for resilience. The AER has approved DNSP proposals for community resilience expenditure and can continue to assess such proposals.
Submission on consultation paper: Nexa Advisory, p. 4.	**Proposed a broader review of distribution network arrangements**, including the application of distribution ring-fencing rules.	A broader review of distribution network arrangements would constitute a separate piece of work and could not be addressed in this rule change request. See below in relation to the distribution ring-fencing rules.
Submissions on draft determination: Nexa Advisory, p. 3 and AGL, p. 1.	**Distribution ring-fencing and competitive provision of non-network resilience** Nexa Advisory consider that the AER must ensure that DNSPs do not disadvantage resilience solutions from market providers. AGL suggests that the final rule prevents weakening ring-fencing provisions for resilience projects and Nexa Advisory suggests it is critical that ring-fencing rules are upheld.	Our final rule does not change the current ring-fencing arrangements which require DNSPs to comply with the Distribution Ring-fencing guidelines under NER clause 6.17.1, which is classified as a tier 1 civil penalty provision under the National Electricity (South Australia) Regulations. In developing and amending the Distribution ring-fencing guidelines the AER must consult with participating jurisdictions, Registered Participants, AEMO and other interested parties under NER clause 6.17.2(d).
Submission on consultation paper: Endeavour Energy, p. 4 Submissions on draft determination: Endeavour	**Amend cost pass through framework** Endeavour Energy consider that disaster recovery provides an unfortunate but opportune time to replace damaged assets with improved assets that can be more	The AER currently consults with stakeholders on cost pass through applications from DNSPs. This consultation includes whether the event meets the definition of a cost pass through event under clause 6.6.1(a1) and whether the costs identified by the DNSPs are incremental to costs already allowed for in its current revenue determination.

Stakeholder	Issue	Response
Energy, p. 1 and Erne Energy, p. 6; ECA, p. 7; and EUAA, pp. 6-7.	resilient. Endeavour Energy consider that the AER's application of the cost past through framework has been to only allow costs necessary to put the DNSP back in the position it was before the event and not to a higher standard, which given increasing climate change risks, may deliver sub-optimal outcomes. EUAA and Erne Energy considered that cost pass through applications should be assessed by examining previously funded ex ante resilience investments. For example if ex ante asset hardening investment is damaged in a storm but reduced the impact on consumers, the DNSP should not get paid a cost pass through to restore it to the DNSP's original position, to avoid customers paying multiple times. ECA also suggested that DNSPs be required to disclose whether infrastructure impacted by severe weather events was ever subject to an ex ante investment review by the AER.	The Commission notes that the AER already considers cost pass through events in the context of DNSP expenditure allowances, and these expenditure allowances may include resilience expenditure. The Commission notes that changes to the cost pass through framework are likely to have implications beyond electricity distribution resilience which are broader than the scope of the issue raised in the rule change request.
Erne Energy, p. 8.	DNSPs should provide that **all consumers benefit from a resilience investment**.	The rule change provides clarity on development and assessment of proposals within the economic regulatory framework. The AER, as the economic regulator, makes its decisions on particular expenditure proposals within distribution determinations in the long term interests of consumers.

Stakeholder	Issue	Response
Ausgrid, p. 2; Essential Energy, p. 3 and ECA, p. 5.	**Include a definition of 'severe weather event' in the NER or guidelines** as it is used seven times in the draft rule.	The Commission considers that the term severe weather event is clear in the context of the resilience expenditure factors and our explanation in this final determination. Therefore, we have not defined it in the NER.
Submission on draft determination: Infrastructure Victoria, p. 1.	**Infrastructure Victoria's climate change adaptation research report 'Weathering the storm'.** Infrastructure Victoria submitted their report which is a methodology and toolkit to help build the investment case to adapt infrastructure to minimise disruptions and reduce disaster recovery costs from severe weather events.	The Commission notes this toolkit, which may be useful for DNSPs or the AER in developing and assessing resilience expenditure proposals.

Note: *NER clauses 6.5.6(e)(10) and clause 6.5.7(e)(10)
Note: **NER clauses 6.5.6(e)(6)-(7) and clause 6.5.7(e)(6)-(7)

D DNSPs' existing regulatory obligations cover cyber-security and safety hazards to their networks

Further to the information in section 3.2, this appendix sets out DNSPs' existing regulatory obligations that cover cyber-security and safety risks to their networks (e.g. terrorism) in the NER and outside the NER.

- **In the NER:**
  - There are already provisions in the expenditure objectives relating to the safety and security of the distribution system[237] DNSPs are currently able to propose, and the AER has approved, expenditure to address cyber-security and others risks to the safety of the network. This means there are no impediments to DNSPs seeking funding to address cyber-security and safety risks to their networks under the current economic regulatory framework.
- **Outside the NER:**
  - DNSPs have existing regulatory obligations for cyber-security and other hazards that may affect the safety of their networks. DNSPs have existing regulatory obligations and frameworks for planning for, responding to and reporting cyber threats and other risks (such as terrorism) under the SOCI Act - see Box 9 below.
  - Jurisdictional authorities may also impose licence conditions on DNSPs that relate to cyber-security and network safety risks.

Box 9: Existing obligations relating to cyber-security and other threats under the SOCI Act

The SOCI Act, administered by the Department of Home Affairs:*

- outlines legal obligations on organisations (including DNSPs) that own, operate, or have direct interests in critical infrastructure assets (these include electricity networks that serve at least 100,000 customers)**
- seeks to make risk management, preparedness, prevention and resilience business as usual for the owners and operators of critical infrastructure assets
- applies to 11 sectors, including energy as well as defence, water, transport, food and communications.

Under the SOCI Act, entities responsible for critical infrastructure assets such as DNSPs are required to establish, maintain and comply with a Critical Infrastructure Risk Management Plan. This is a plan to manage the material risk of a hazard occurring. Responsible entities must identify, and as far as is reasonably practicable, take steps to minimise or eliminate these material risks that could have a relevant impact on their asset.

Under the SOCI Act, there are rules relating to planning for and managing five types of hazards:***

- **Natural hazards** - this category is the most relevant for this rule change, as it includes fire, flood, cyclone, storm, heatwave, earthquake, tsunami, space weather or biological health hazard.
- **Physical security hazards –** unauthorised access to, interference with or control of critical infrastructure assets, to compromise the proper function of the asset or cause significant damage to the asset.

237 NER clause 6.5.6(a) and clause 6.5.7(a).

- **Cyber and information security hazards –** 'cyber' risks to digital systems, computers, datasets and networks that underpin critical infrastructure systems. This includes improper access, misuse or unauthorised control.
- **Personnel hazards –** the 'trusted insider' risk posed by critical workers who have the access and ability to disrupt the functioning of the asset or cause significant damage to the asset.
- **Supply chain hazard –** risk of disruption to critical supply chains leading to a relevant impact on the critical infrastructure asset. It includes malicious people both internal and external exploiting, misusing, accessing or disrupting the supply chain, and over-reliance on particular suppliers.

Source: *Further information is available here: Australian Government, Department of Home Affairs, Security of Critical Infrastructure Act 2018 (SOCI): Website viewed 21 January 2025: https://www.cisc.gov.au/legislation-regulation-and-compliance/soci-act-2018

Source: **SOCI Act section 10.

Source: ***These are defined in section 3 of the Security of Critical Infrastructure (Critical infrastructure risk management program) Rules.

Note: SOCI Act and associated rules, available in the Federal Register of Legislation. Australian Government, Department of Home Affairs, Security of Critical Infrastructure Act 2018 (SOCI): Website viewed 21 January 2024, https://www.cisc.gov.au/legislation-regulation-and-compliance/soci-act-2018

Abbreviations and defined terms

AASB	Australian Accounting Standards Board
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
AIO	Annual Information Orders
CER	Consumer energy resources
Commission	See AEMC
DAPR	Distribution Annual Planning Reports
DNSP	Distribution network service provider
ECMC	Energy and Climate Change Ministerial Council
Guidance note	Network resilience guidance note
Guidelines	Network Resilience Guidelines
GSL	Guaranteed Service Level
HILP	High Impact Low Probability
JEC	Justice and Equity Centre
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NPV	Net present value
NSP	Network Service Providers (including DNSPs and TNSPs)
NSW	New South Wales
NT	Northern Territory
NT Act	The National Electricity (Northern Territory) (National Uniform Legislation) Act 2015 (**NT Act**)
Proponent	The proponent of the rule change request, the Honourable Lily D'Ambrosio MP, Victorian Minister for Energy and Resources
RIN	Regulatory Information Notice
SAPS	Stand-alone power systems
SOCI Act	*Security of critical infrastructure Act 2018* (Cth)
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission network service provider
VCR	Value of Customer Reliability
VER	Value of Emissions Reduction
VNR	Value of Network Resilience